Summary Report

Former Drum Storage Area TAA 359B

Marine Corps Air Station, El Toro, California

21 March 2000

Prepared by
Southwest Division, Naval Facilities Engineering Command
BRAC Program Office
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Summary Report

Former Drum Storage Area TAA 359B
Marine Corps Air Station, El Toro, California

21 March 2000

Prepared by:

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TRANSMITTAL

Date: 21 March 2000

From: Lynn Marie Hornecker

To: **Ms. Triss Chesney**
State of California Environmental Protection Agency
Department of Toxic Substances Control, Region 4
Site Mitigation Branch
Base Closure Unit
5796 Corporate Avenue
Cypress, CA 90630

Subj: Summary Report, Former Drum Storage Area TAA 359B
Marine Corps Air Station, El Toro

Provided for your review as the attachment is the subject summary report for the former drum storage area designated as Temporary Accumulation Area (TAA) 359B in the Base Realignment and Closure Business Plan. The site was used for storage of containers, supplies, and equipment, and storage activities were in progress during the Resource Conservation and Recovery Act Facility Assessment (RFA) Visual Site Inspection (VSI) of 1991. Empty 55-gallon drums, containerized liquids, and equipment were observed in storage at the TAA 359B vicinity during the VSI of 1991. Station records do not identify recent generation of or storage of hazardous wastes at Building 359 (a storage building), however, we have evaluated the site as a temporary hazardous waste storage unit.

TAA 359B was investigated as Solid Waste Management Unit (SWMU) Number 99 during the RFA, and soil samples were collected from two borings within the SWMU 99 boundary during the RFA Sampling Visit of 1992. Building 359, a former engine preservation building until the 1960's, was evaluated during the RFA due to the former operations involving a trichloroethylene (TCE) vapor degreaser (SWMU 100) that was located within the building. The building has been used for storage of equipment and supplies since the 1960's.

The evaluation of TAA 359B included the data from sampling activities conducted in 1997 for TAA 359B, in 1992 for SWMU 99 and for SWMU 101 (a nearby oil/water separator), and in 1996 for the nearby Underground Storage Tank (UST) Site 359C.

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We believe that the results of the soil sampling activities and the screening level risk calculations successfully demonstrate that no further actions are required at this site.

Please provide comments or concurrence within sixty (60) days of receipt of this document. A formal transmittal letter may follow.

Please do not hesitate to call me at (619) 532-0783 if you have questions. Thank you very much.

Attachment
Summary Report, TAA 359B (Southwest Division, March 2000)

CF: w/o attachment
Dean Gould (MCAS El Toro)
Project File

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Section 1
Introduction

The purpose of this Summary Report is to present information pertaining to the former drum storage area, also known as Temporary Accumulation Area (TAA) 359B on the southeast side of Building 359 in the southwestern section of the Marine Corps Air Station (MCAS), El Toro. TAA 359B was identified as Solid Waste Management Unit (SWMU) Number 99 during the Resource Conservation and Recovery Act Facility Assessment (RFA). Two empty drums, containerized liquids, and various supplies and equipment were observed in storage at TAA 359B during the RFA Visual Site Inspection (VSI) of 1991. The results of the RFA are published in the *Final Resource Conservation and Recovery Act Facility Assessment Report for Marine Corps Air Station, El Toro, California* (Jacobs Engineering Group (JEG), 1993).

The Marine Corps Air Station, El Toro, also known as the Station, comprises approximately 4,700 acres and is located in eastern Orange County approximately 45 miles southeast of Los Angeles, California. TAA 359B is located in the southwestern section of the Station within the boundary of Installation Restoration Program (IRP) Site 24, the Volatile Organic Compound (VOC) Source Area. TAA 359B, nearby sample locations, and the adjacent buildings are shown on Figure 1.

The Station closed on 2 July 1999 in accordance with the Base Realignment and Closure Act of 1993 (BRAC III). TAA 359B is located within a parcel designated for future use as public facilities according to *The Airport and Open Space Plan, Year 2020, Concept B* (County of Orange, 1999).

Samples were collected at or near TAA 359B during 1997 site verification activities, during the 1992 RFA Sampling Visit for SWMU 99, during the 1992 RFA Sampling Visit for nearby SWMU 101, and during the 1996 site verification activities for nearby Underground Storage Tank (UST) Site 359C. A screening risk calculation identified the excess lifetime cancer risk due to residual contaminants at TAA 359B at less than 1 x 10^{-6} which is generally considered to be within the allowable risk range.

We evaluated historical information, Station maps and plans, Station property records, environmental program management plans, and the results of previous environmental restoration program investigations. We also conducted a visual inspection of the vicinity of TAA 359B during November 1999. The records show that TAA 359B was used for temporary storage of supplies and materials, but that hazardous wastes were not routinely generated or stored at Building 359 or at the adjacent Building 313.

Based upon the evaluation of the field data, the screening risk calculations, the evaluation of the historical records, and the results of our visual inspection of the site, we are requesting that *no further action status* be designated for TAA 359B in the Base

Realignment and Closure Business Plan update.

Section 2
Field Inspections and Historical Records

2.1 Field Inspections

The former storage area – TAA 359B – was visually inspected by Navy representatives in November 1999. The storage area adjacent to Building 359, the parking areas for Buildings 359 and 313, and Buildings 359 and 313 were vacant at the time of the inspection.

The TAA 359B vicinity is partially paved with deteriorated asphalt pavement and/or covered with gravel. The site is located in close proximity to the railroad tracks and the loading dock that extends along the southwest side of Building 359. A concrete slab located north of TAA 359B was used as a washrack and was investigated as SWMU 98 during the RFA.

No significant stains or discolored areas were visible on the paved or unpaved areas at or near TAA 359B during the visual inspection. No items were observed in storage at the TAA 359B vicinity during the inspection. A photograph of the site is presented in the Appendix.

Surface runoff from the TAA 359B vicinity is conveyed through storm drains that eventually discharge to Bee Canyon Wash or Agua Chinon Wash. Surface water quality is monitored under the Station's National Pollutant Discharge Elimination System (NPDES) Permit for storm water which was issued by the Regional Water Quality Control Board, Santa Ana Region. Additionally, the surface drainage channels were investigated as IRP Site 25 –the Major Drainages- and a Record of Decision for No Action was signed for IRP Site 25 in September 1997.

2.2 Historical Property Records and Environmental Program Management Plan Records

Property records including the Station's plant account data base were acquired and reviewed, and information pertaining to structures located near TAA 359B is summarized in Table 1.

Table 1. MCAS El Toro Property Records.
Vicinity of TAA 359B

Building Identification Number	Year of acquisition or construction	Type of Use	Comments
Building 359	1952	Warehouse (MTIS Building)	Approximate dimensions: 201 feet by 65 feet. Building 359 was originally an engine preservation building.
Building 313	1945	General Warehouse	Approximate dimensions: 250 feet by 200 feet. The 1954 Master Plot Plan identifies Building 313 as a general storage building.

The Station's environmental compliance program management plans were acquired and reviewed in order to identify any locations at or near TAA 359B that may have been designated for storage of hazardous wastes. The Hazardous Material/Hazardous Waste Management Plan (HM/HWMP) (SAIC, 1994) does not identify hazardous waste management activities at Building 359 or Building 313 or the TAA 359B vicinity, and extracts from the plan are presented in the Appendix.

The Storm Water Pollution Prevention Plan (SWPPP) was reviewed and extracts from the SWPPP for the vicinity of TAA 359B are presented in the Appendix of this report. The SWPPP describes the inactive degreaser tank (not used for approximately 20 years prior to the publication of the SWPPP) inside of Building 359 and previous Building 359 operations. The SWPPP indicates that lacquers, corrosive cleaners, and dessicants are stored at Building 359. The SWPPP indicates that Building 313 was used as a field maintenance shop and as a storage facility (storage out of stores), and no additional best management practices were recommended. Extracts from the SWPPP are presented in the Appendix.

A phantom temporary accumulation area (TAA 359A) was evaluated during 1998 and 1999. The findings of the evaluation indicated that supplies were stored near the south end of Building 359 and that hazardous wastes were not stored at that location. Regulatory agency concurrence on the phantom (non-existent) status was achieved in 1999, and relevant correspondence is presented in the Appendix.

2.3 Previously Completed Investigations in the Vicinity of SWMU 94

Table 2 includes an overview of the types of data that have been collected at or near TAA 359B. Additionally, Table 2 identifies the data sets that were used in the screening risk calculations for TAA 359B.

Table 2. Field Sampling Activities Conducted at or near TAA 359B.

Site Identification Number	Types of Sampling Activities	No further action (NFA) or other decision document(s)	Comments
Remedial Investigation			
IRP Site 24	Soil, soil gas, and ground water sampling was conducted during the Phase I and Phase II Remedial Investigations and during the implementation of the remedy for the vadose zone.	Interim Record of Decision of 1997	Three (3) soil gas samples were collected from a CPT point (24CPT10) located approximately 30 feet northwest of TAA 359B. The maximum TCE vapor concentration was 22 micrograms per liter (at a depth of 75 feet) which is significantly less than the target cleanup level of 27 micrograms per liter (for protection of ground water quality) established in the Interim ROD. Extracts from the RI Report for 24CPT10 are presented in the Appendix.
IRP Site 25	Field sampling was conducted at the major surface drainages, including Bee Canyon Wash and Agua Chinon Wash.	No Action Record of Decision of September 1997	
Resource Conservation and Recovery Act Facility Assessment			
TAA 359B	Soil samples were collected from a shallow boring, TAA 359B-SBB, during site verification activities of 1997.		Sample was collected at a depth of 1.5 feet below ground surface.
SWMU 99 (TAA 359B)	Soil samples were collected from two borings at SWMU 99 (TAA 359B) during the RFA Sampling Visit of 1992.	No further action was recommended following the completion of the RFA Sampling Visit	Screening risk calculations utilized data from samples collected from two borings: 99B1 (6 samples collected at five-foot intervals) 99B2 (5 samples collected at five-foot intervals).
SWMU 101 (OWS 359B)	Soil samples were collected from one boring located near a storm drain inlet northwest of TAA 359B during the RFA Sampling Visit of 1992.	No further action was recommended following the completion of the RFA Sampling Visit	Screening risk calculations utilized data from five (5) samples collected at five-foot intervals from boring 101B1.
Tank Program			
UST 359C	Confirmation sampling during tank removal and subsequent site verification activities in 1996.	OCHCA letter dated 9 December 1996	Screening risk calculations utilized data from samples collected from one boring site verification boring UST359C-SB02.

2.4 Screening Risk Calculations

Nineteen (19) soil samples from five (5) borings near or at TAA 359B were used in the evaluation of residual risk. Eleven (11) samples were collected from two (2) borings – 99B1 and 99B2 – in 1992 during the RFA Sampling Visit for SWMU 99 (TAA 359B). Five (5) samples were collected from nearby boring 101B1 for SWMU 101 during the RFA Sampling Visit of 1992. One sample was collected from one (1) shallow boring – TAA 359B-SBB – at a depth of 1.5 feet during site verification activities in 1997. Two (2) samples were collected in 1996 from a boring – UST 359C SB02 - during the verification of conditions at the adjacent former Underground Storage Tank (UST) Site 359C. Sample locations are shown on Figure 1.

Sampling Visit Results for SWMU 99: Eleven (11) samples were collected from borings 99B1 and 99B2 in 1992. Pesticides and polychlorinated biphenyls were not detected at or above laboratory reporting limits. Lead was reported above the laboratory reporting limits, and silver was reported as an estimated value. Three semi-volatile organic compounds were reported as estimated values: Bis(2-Ethylhexyl)phthalate; Di-n-butylphthalate; Di-n-octylphthalate. Two volatile organic compounds were reported: Methylene chloride (reported in the associated blanks) and Toluene (reported as an estimated value).

Sampling Visit Results for SWMU 101: Five (5) samples were collected from one boring – 101B1 – in 1992. Two volatile organic compounds were reported: Acetone (reported in the associated blanks) and Methylene Chloride (reported in the associated blanks). Total Recoverable Petroleum Hydrocarbons (TRPH) were reported at a maximum concentration of 170 milligrams per kilogram in the five-foot sample.

Site Verification at Former UST Site 359C: Two (2) samples were collected from boring UST 359C SB02 at depths of 16 feet and 25.5 feet in 1996 (Samples 96-359C-s-773 and 96-359C-s-774). Volatile organic compounds, semi-volatile organic compounds, and total petroleum hydrocarbons were not reported at or above laboratory reporting limits in samples from this boring. Several metals were detected above laboratory reporting limits.

Site Verification at TAA 359B: One (1) sample was collected from boring TAA 359B-SBB at a depth of 1.5 feet in 1997 (Sample 18609721). Volatile organic compounds and total petroleum hydrocarbons were not detected at or above laboratory reporting limits in samples collected from TAA 359B SBB. The pesticide, 4,4-DDT, was detected at 2.4 micrograms per kilogram in the 1.5-foot sample. Several metals were detected above laboratory reporting limits.

A summary of the highest measured concentrations for various analytes, corresponding Preliminary Remedial Goals (PRGs) for residential land use (United States Environmental Protection Agency (USEPA), Region 9), MCAS El Toro background

levels (Bechtel, 1996), and screening risk calculations are presented in Table 3. The screening risk calculations indicate that the residual risk attributable to background metals concentrations exceeds the risk of residual chemicals present at TAA 359B. Consequently, the residual risk at TAA 359B, when the risk attributable to background metals is subtracted, is a negative number.

Results for each field sample are presented in the Appendix. For example, the summary tables from the RFA for SWMU 99 and for SWMU 101 are included in the Appendix. The laboratory test reports for samples collected from UST Site 359C and TAA 359B are included in the Appendix.

Table 3. Maximum Chemical Concentrations in Soil Samples in the TAA 359B Vicinity with Screening Risk Calculations.

Chemical Name	Sample Location	Maximum Concentration (milli-grams/kilo-gram)	USEPA Region 9 PRG (milli-grams/kilo-gram)	Risk Ratio	Screening Level Risk Calculation [1]	MCAS El Toro Back-ground Level (milli-grams/kilo-gram)	Back-ground risk ratio	Back-ground risk calculation [1]
Aluminum	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**6600**	75000	0.088	8.8E-08	14800	0.1973333	1.973E-07
Arsenic	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**1.6**	0.38	4.2105263	4.21E-06	6.86	18.052631	1.8053E-05
Barium	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**110**	5200	0.0211538	2.12E-08	173	0.0332692	3.3269E-08
Beryllium	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**0.39**	150	0.0026	2.6E-09	0.669	0.00446	4.46E-09
Chromium	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**8.9**	210	0.042381	4.24E-08	26.9	0.1280952	1.281E-07
Cobalt	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**5.9**	3300	0.0017879	1.79E-09	6.98	0.0021151	2.115E-09
Copper	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**5.1**	2800	0.0018214	1.82E-09	10.5	0.00375	3.75E-09
Iron	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**10000**	22000	0.4545455	4.55E-07	18400	0.8363636	8.3636E-07
Lead	RFA Boring 99B1 @ 5 feet (JEG, 1993)	**90.3**	130	0.6946154	6.95E-07	15.1	0.1161538	1.1615E-07
Manganese	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**200**	3100	0.645161	6.45E-08	291	0.093871	9.3871E-08

Table 3. (Continued)

Chemical Name	Sample Location	Maximum Concentration (milli-grams/kilo-gram)	USEPA Region 9 PRG (milli-grams/kilo-gram)	Risk Ratio	Screening Level Risk Calculation [1]	MCAS El Toro Back-ground Level (milli-grams/kilo-gram)	Back-ground risk ratio	Back-ground risk calculation [1]
Nickel	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**6.6**	150	0.044	4.4E-08	15.3	0.102	1.02E-07
Silver	RFA Boring 99B2 @ 5 feet (JEG, 1993)	**0.82**	370	0.0022162	2.22E-09	0.539	0.0014568	1.4568E-09
Vanadium	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**24**	520	0.0461538	4.62E-08	71.8	0.1380769	1.3808E-07
Zinc	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**41**	22000	0.0018636	1.86E-09	77.9	0.0035409	3.5409E-09
Toluene	RFA Boring 99B1 @ 5 feet (JEG, 1993)	**0.002**	520	3.846E-06	3.85E-12			
Bis(2-ethylhexyphthalate)	RFA Boring 99B2 @ 10 feet (JEG, 1993)	**0.11**	32	0.0034375	3.44E-09			
Di-n-octylphthalate	RFA Boring 99B2 @ 10 feet (JEG, 1993)	**0.022**	1100	0.00002	2E-11			
4,4-DDT	TAA 359B-SBB at 1.5 feet (Sample 18609-721)	**0.0029**	1.7	0.0017059	1.71E-09			
					Site Risk			Back-ground Risk
TOTALS					5.68E-06			1.971E-05
							-	
Total Risk Adjusted for Background Metals					**-1.4E-05**			

Notes:

1. The risk is calculated by dividing the greatest measured concentration by the PRG and then multiplying the result by 10^{-6} (in accordance with procedures in USEPA Region 9 PRGs (USEPA, 1999).
2. Risk levels were not calculated for analytes that were not detected at or above the laboratory reporting limits.

Ground water conditions have been investigated in the vicinity of TAA 359B during the remedial investigation of IRP Site 24. Ground water at nearby well 24NEW6, approximately 600 feet southeast of TAA 359B, contains trichloroethylene (TCE), and the TCE plume is managed under the Installation Restoration Program for Site 24. The

depth to ground water is approximately 90 feet below ground surface in the vicinity of TAA 359B based upon water level measurements from well 24NEW6. A conceptual site model is shown on Figure 2.

Section 3
Findings and Recommendations

The following findings are based upon information collected during the record search activities, field sampling results, and from observations during the visual inspection of the vicinity of TAA 359B.

- JEG identified TAA 359B as SWMU 99 – a drum storage area - during the Resource Conservation and Recovery Act Facility Assessment (RFA). The RFA recommendation was no further action for SWMU 99.
- Historical records indicate that Building 359 was most recently used for storage of supplies and equipment. Hazardous waste storage activities were not identified in the Hazardous Materials/Hazardous Waste Management Plan.
- Navy representatives visually inspected the vicinity of TAA 359B in November 1999, and no evidence of storage of hazardous materials, hazardous wastes, equipment, or other items was observed. No significant stains or discolored areas were observed in the TAA 359B vicinity.
- Screening level risk calculations identify an excess lifetime cancer risk of less than 1 x 10^{-6} due to residual chemicals at the TAA 359B vicinity.

Based upon the absence of visual evidence of significant stains or discolored areas, the results of the field sampling activities, the results of the screening risk calculations, and the absence of historical documentation identifying hazardous waste storage at Building 359, it is recommended that *no further action status* be designated for TAA 359B and that *no further action status* with ECP identifier number 3 be documented in the next BRAC Business Plan Update.

Section 4
References and/or Sources of Information

Bechtel National, Incorporated. 1998. Draft Final Engineering Design Report, Vadose Zone Remediation, Site 24, Marine Corps Air Station, El Toro, California. December. [Navy Contract N68711-92-D-4670, CTO 162]

Bechtel National, Incorporated. 1997. Draft Final Phase II Remedial Investigation Report, Operable Unit 2A-Site 24, Marine Corps Air Station, El Toro, California. [Navy Contract N68711-92-D-4670, Contract Task Order 73]

Bechtel National, Incorporated. 1996. Final Technical Memorandum, Background and Reference Levels, Remedial Investigations, Marine Corps Air Station, El Toro, California. October. [Navy Contract N68711-92-D-4670, CTO 76]

California Environmental Protection Agency, Department of Toxic Substances Control. 1999. Correspondence. Letter to Marine Corps Air Station, El Toro dated May 12, 1999 with Comments on Technical Memorandum, Aerial Photograph Anomalies, Marine Corps Air Station, El Toro.

California Regional Water Quality Control Board, Santa Ana Region. 1998. Statement of Basis, Renewal of Waste Discharge Requirements for Marine Corps Air Station, El Toro, Order Number 98-42 (NPDES Number CAS 618006). March.

CDM Federal Programs Corporation. 1998. Final Groundwater Monitoring Report, October 1997 Sampling Round, Groundwater Monitoring Program for Marine Corps Air Station, El Toro. [Navy Contract N68711-96-D-2029, Delivery Order 5]

County of Orange. 1997. Alternative A, El Toro Community Reuse Plan, 1997 Working Map, Land Uses/Conveyances, Gross Acres. [Prepared by P&D Consultants for the County of Orange, March 1997.]

County of Orange. 1993. Orange County Health Care Agency (OCHCA) Field Log for Removal of UST 359C.

County of Orange. 1999. The Airport and Open Space Plan, Year 2020, Concept B. [prepared by the MCAS El Toro Local Redevelopment Authority]

Integrated Environmental Management (IEM). 1997. Storm Water Pollution Prevention Plan (SWPPP) for Marine Corps Air Station, El Toro, El Toro, California. July. [Contract No. N68711-96-D-2059, Delivery Order Number 0002] {*Annotation: The IEM planning document included the acquisition and review of historical and current plans of facilities and utilities. Extracts from the IEM report are presented in the Appendix.*}

Jacobs Engineering Group (JEG). 1993. Installation Restoration Program, Final Resource Conservation and Recovery Act Facility Assessment Report for Marine Corps Air Station, El Toro, California. [Navy Contract N68711-89-D-9296, Contract Task Order 193]

Jacobs Engineering Group (JEG). 1994. Marine Corps Air Station El Toro, El Toro, California, Installation Restoration Program, Remedial Investigation/Feasibility Study, Final Soil Gas Survey Technical Memorandum, Sites 24 and 25. September. [Navy Contract N68711-89-D-9296, Contract Task Order 145]

Jacobs Engineering Group (JEG). 1995. Marine Corps Air Station El Toro, El Toro, California, Final Environmental Baseline Survey Report. April. [Navy Contract N68711-89-D-9296, Contract Task Order 284]

Science Applications International Corporation (SAIC). 1994. Final, Marine Corps Air Station, El Toro, Hazardous Material/Hazardous Waste Management Plan {with Appendices C and I, Hazardous Waste Accumulation Areas and Photographs of Accumulation Points and Hazardous Material Storage Areas}. August. [Contract N68711-92-D-4658, Delivery Order Number 4].]

Southwest Division, Naval Facilities Engineering Command. 1998. Site Assessment Report, Oil/Water Separator Site 359B, Marine Corps Air Station, El Toro. November.

United States Environmental Protection Agency. Code of Federal Regulations, Title 40, Part 300 – National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

United States Marine Corps Air Station, El Toro. 1999. Base Realignment and Closure (BRAC) Cleanup Plan.

United States Marine Corps Air Station, El Toro. 2000. Base Realignment and Closure (BRAC) Business Plan.

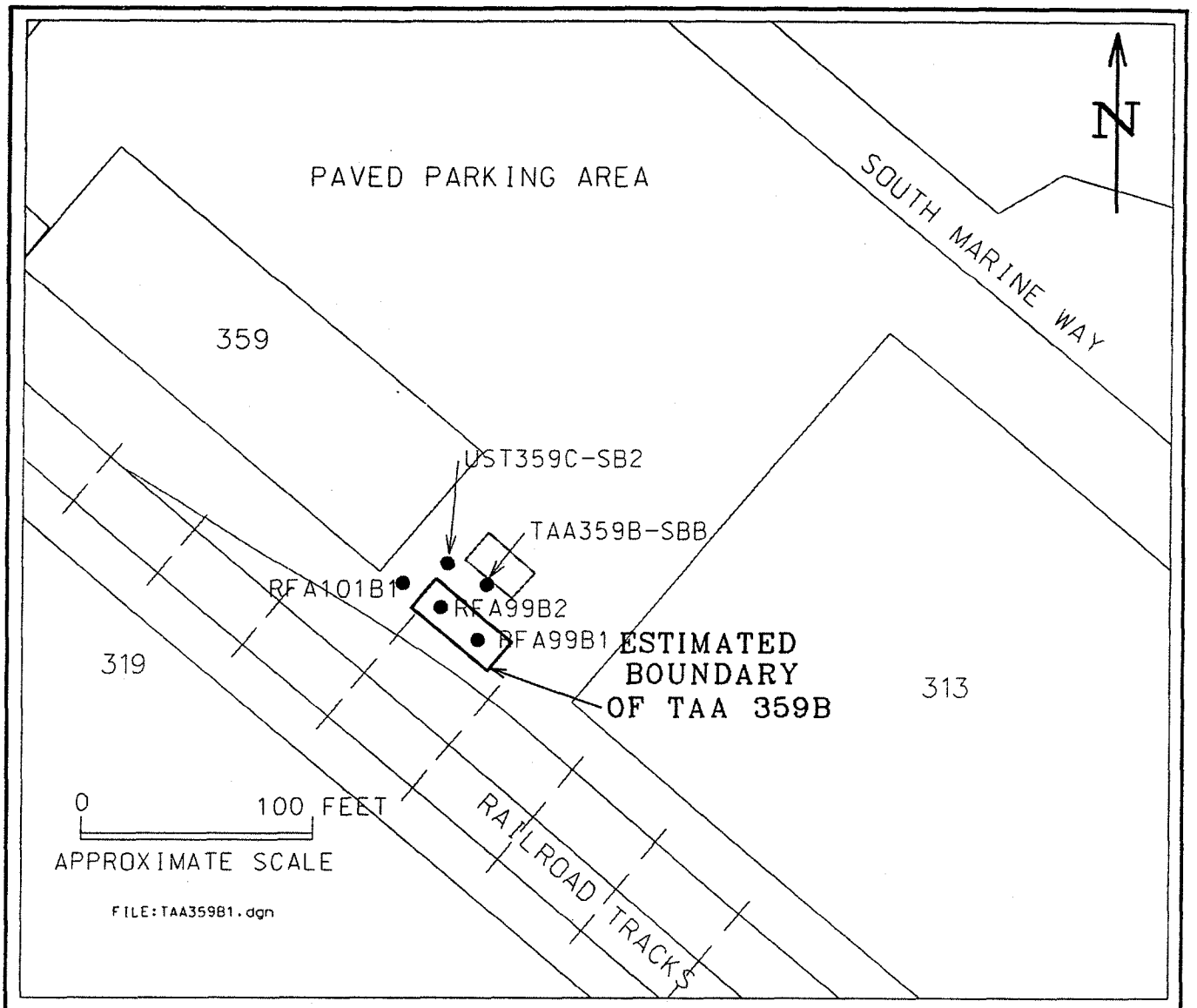
United States Marine Corps Air Station, El Toro. Circa 1946-1999. Station Property Records, Building Guides, and Historical Photographs.

U.S. Marine Corps Air Station, El Toro. 1997. Draft Final Record of Decision, Operable Units 2A and 3A, No Action Sites, Marine Corps Air Station, El Toro, California. September.

U.S. Marine Corps Air Station, El Toro. 1997. Draft Final Interim Record of Decision, Operable Unit 2A, Site 24 – VOC Source Area Vadose Zone, Marine Corps Air Station, El Toro, California. September.

United States Marine Corps Air Station, El Toro, Public Works Department. 1954. Master Plot Plan, Proposed Additional Aircraft Parking Facilities in Tactical Area III and Proposed Relocation of Existing Stables. [Alternate drawing identification number Public Works drawing PS-1236]

Figures



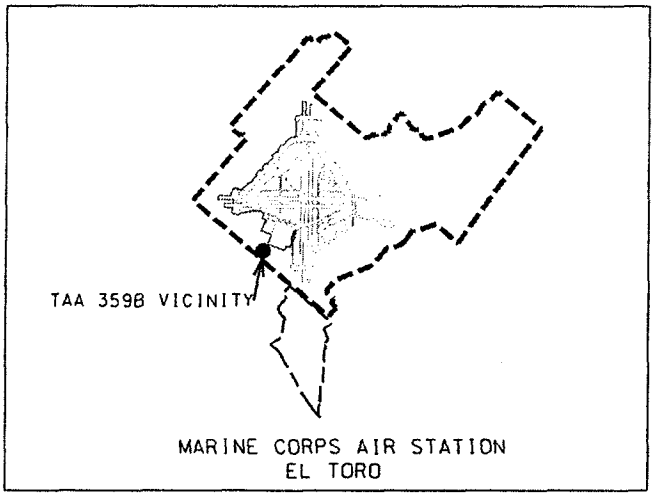


Figure 1.

TEMPORARY ACCUMULATION AREA 359B

VICINITY MAP

MARINE CORPS AIR STATION, EL TORO

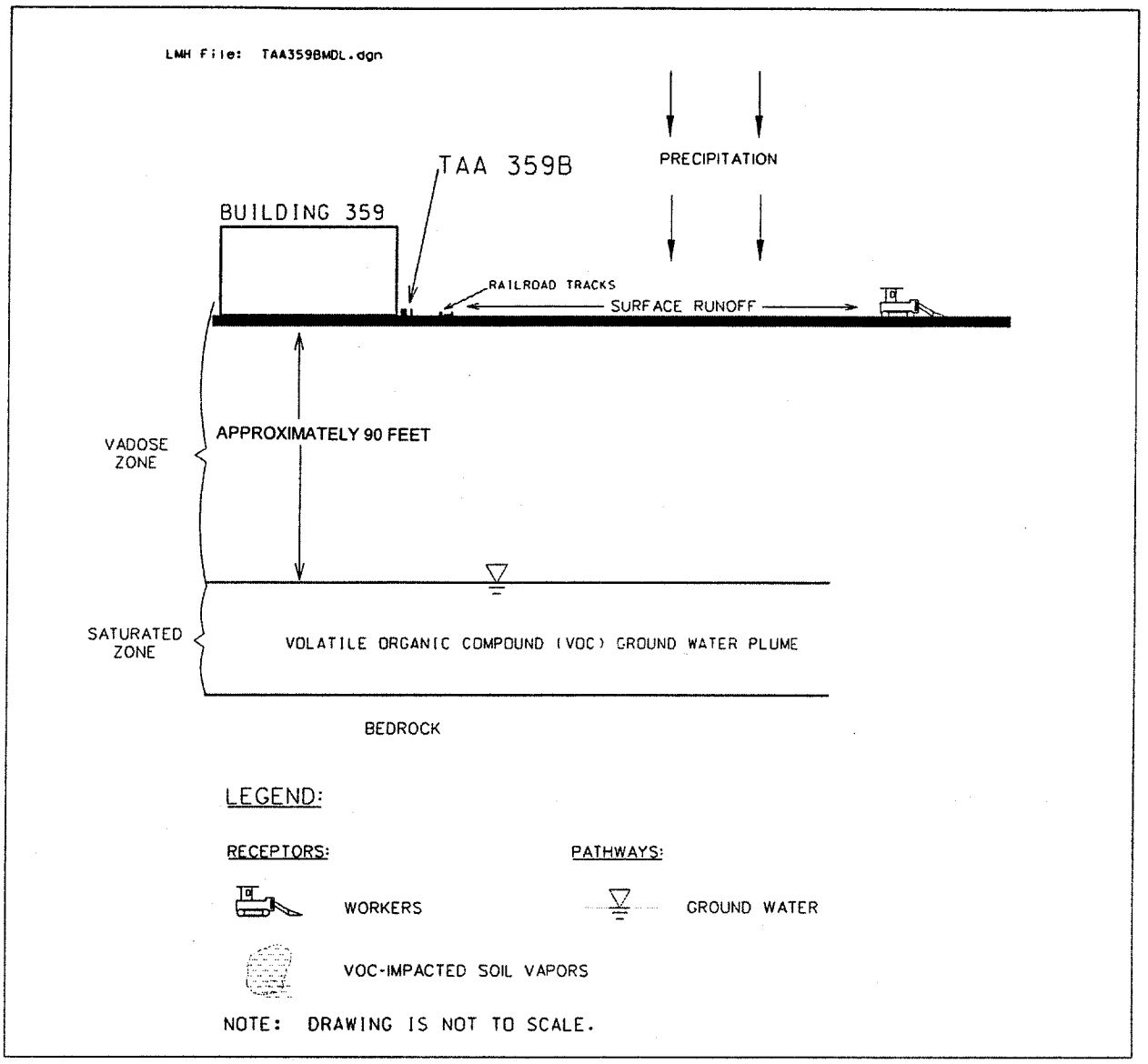


Figure 2.

TEMPORARY ACCUMULATION AREA 359B

CONCEPTUAL SITE MODEL

MARINE CORPS AIR STATION, EL TORO

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Appendix

Site Photographs and Other Documentation

Site Photographs

Check List Form

Exhibits

Screening Risk Calculation Worksheets

Extracts from RFA Documentation

Extracts from Environmental Baseline Survey Documentation

Extracts from Storm Water Pollution Prevention Plan (SWPPP)

Extracts from HM/HWMP

Extracts from Draft Final RI Report for IRP Site 24 (Bechtel, 1997)

No Further Action Decision Documents for Selected Nearby Environmental Locations of Concern

Laboratory Test Reports and Surveyed Sample Locations (OHM, 1999)

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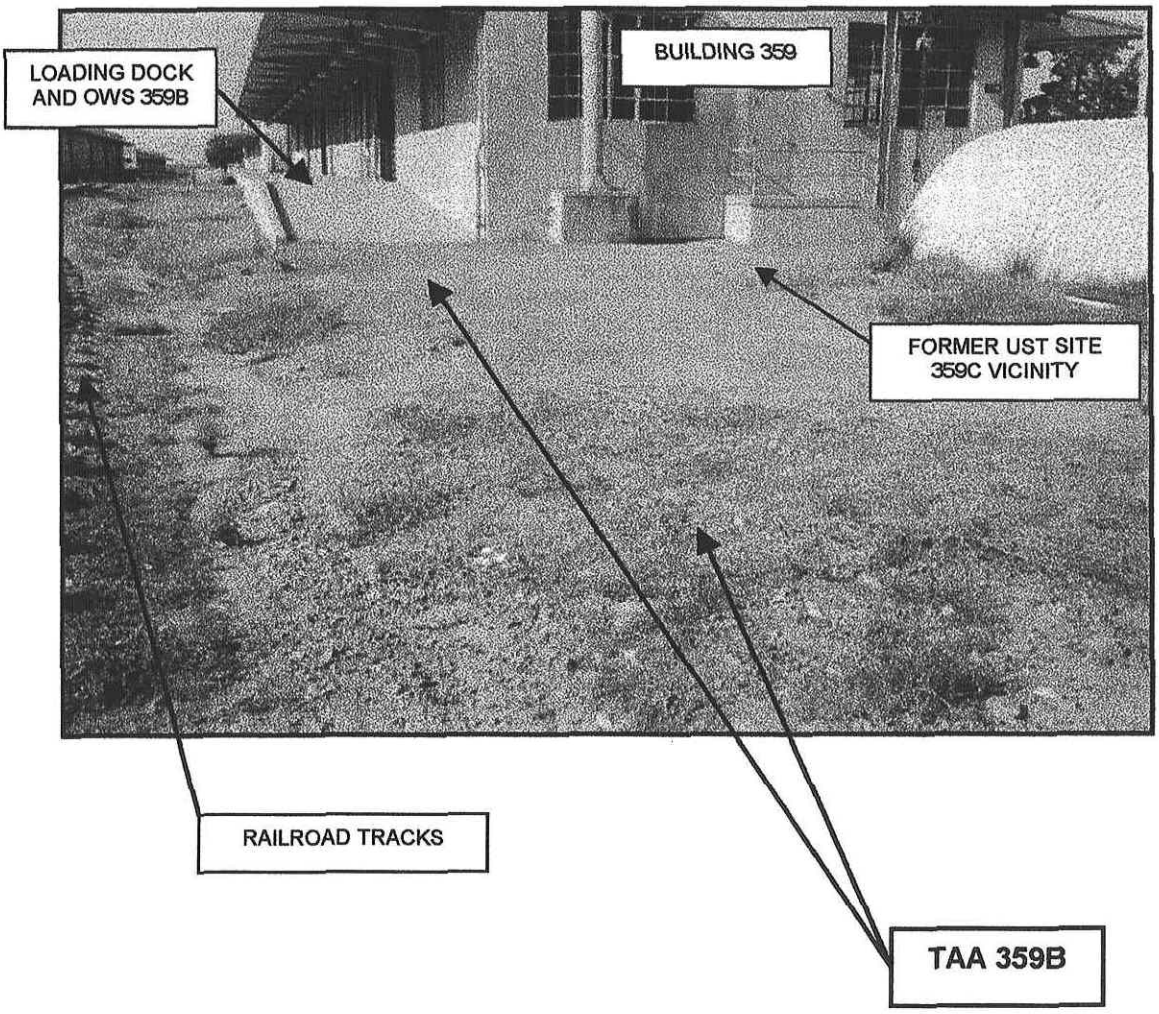
Photograph 1. TAA 359B and Vicinity.

Looking Approximately Northwest Toward Building 359 (Supply and Central Receiving Facility).

RCRA Facility Assessment

Marine Corps Air Station, El Toro

Date of Photograph: 21 November 1999



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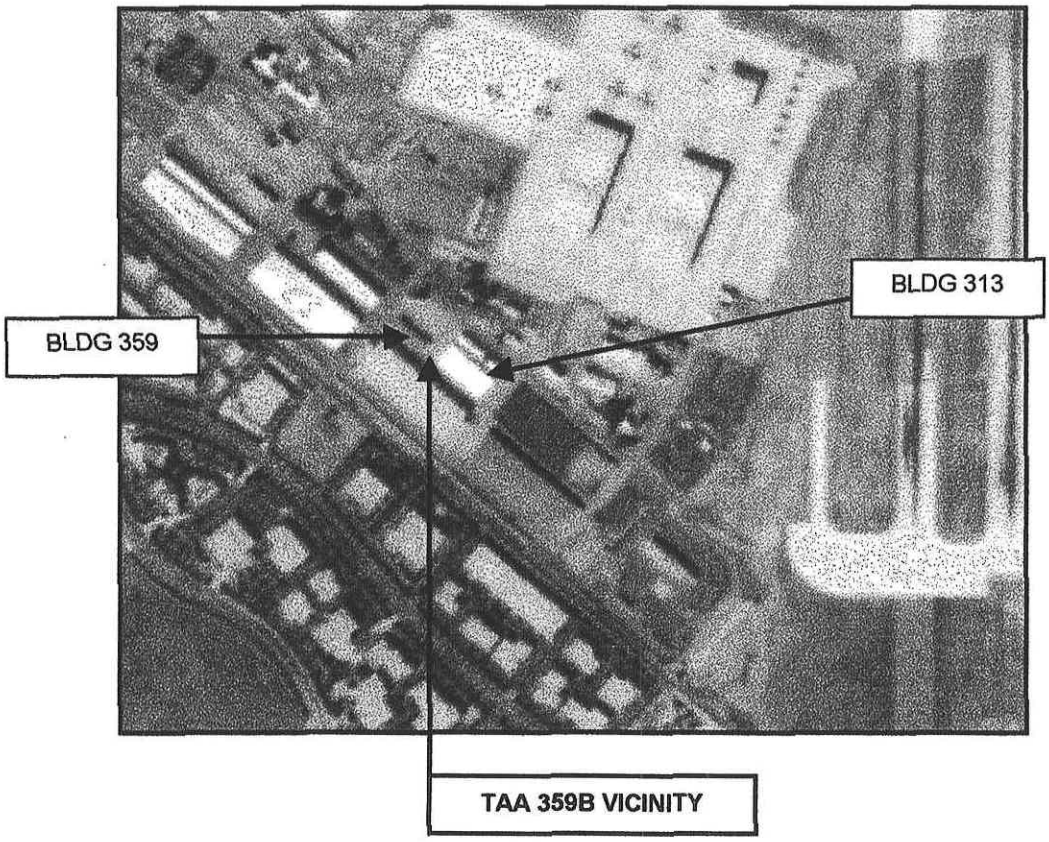
File: t359bph

Photograph 2. TAA 359B and Vicinity.

RCRA Facility Assessment
Marine Corps Air Station, El Toro

Date of Photograph: 1994



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CHECK LIST

Resource Conservation and Recovery Act Facility Assessment Program
Temporary Accumulation Area (TAA) 359B
[also known as Solid Waste Management Unit (SWMU) Number 99]
Marine Corps Air Station, El Toro

SWMU Identification Information

SWMU Identification Number	Location	Sources of Information
99	Adjacent to End of Building 359	RFA Report (JEG, 1993)

Recommendation: ***No Further Action Status***

Description (from source document: RFA Report of 1993):
SWMU/Area of Concern Number 99: ***"Unit Characteristics: A DSA near Building 359 was identified in a letter dated 29 June 1989 from the RWQCB to Lt. Mike Rehor. The DSA is located near the southwestern corner of Building 359. About 100 containers and drums of various size are stored about 20 ft south of the southwestern corner of Building 359. The drums and containers are stored on wood pallets in an unpaved area. A large dark stain can be found on the ground near the center of the storage area where two empty 55-gallon drums are stored. Twelve 14-gallon containers of Component "A" are stored on asphalt paved ground, adjacent to the southwestern wall of Building 359. See Evaluation Form SWMU/AOC Number 254 for a description of the storage area."***

Visual Inspection Date (s): *21 November 1999*

Participant(s) (with affiliation(s)) in inspection(s): *Lynn Marie Hornecker*
US Navy

Current Site Conditions: *The TAA 359B vicinity was vacant at the time of the inspection. Much of the area is unpaved, however, there are sections of deteriorated asphalt pavement near Building 359. No items were being stored near Building 359 during the inspection, and no significant stains or discolored areas were observed on the unpaved or paved surfaces in the vicinity of TAA 359B.*

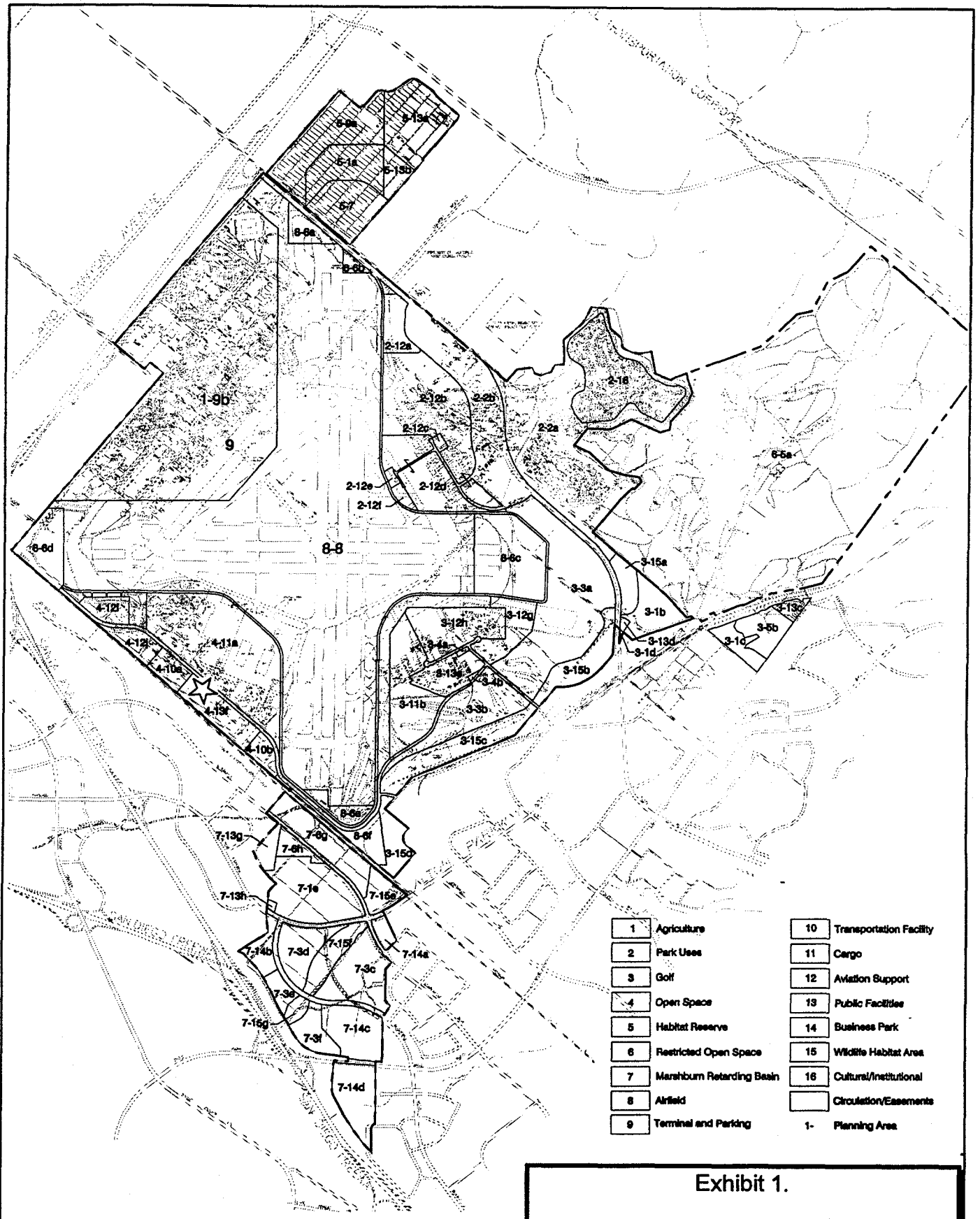
Is there visual evidence of temporary storage (drum storage) of hazardous wastes at the site? *No.*

Is there visual evidence of past releases? *No.*

Are there indications of potential or current releases? *No. The TAA 359B vicinity was vacant during the visual inspection.*

Description of photograph(s): *Photographs show the TAA 359B vicinity.*

Date of preparation of check list: *17 March 2000*



NOTE: THE APPROXIMATE LOCATION OF TAA 359B IS IDENTIFIED WITH A STAR SYMBOL: ☆

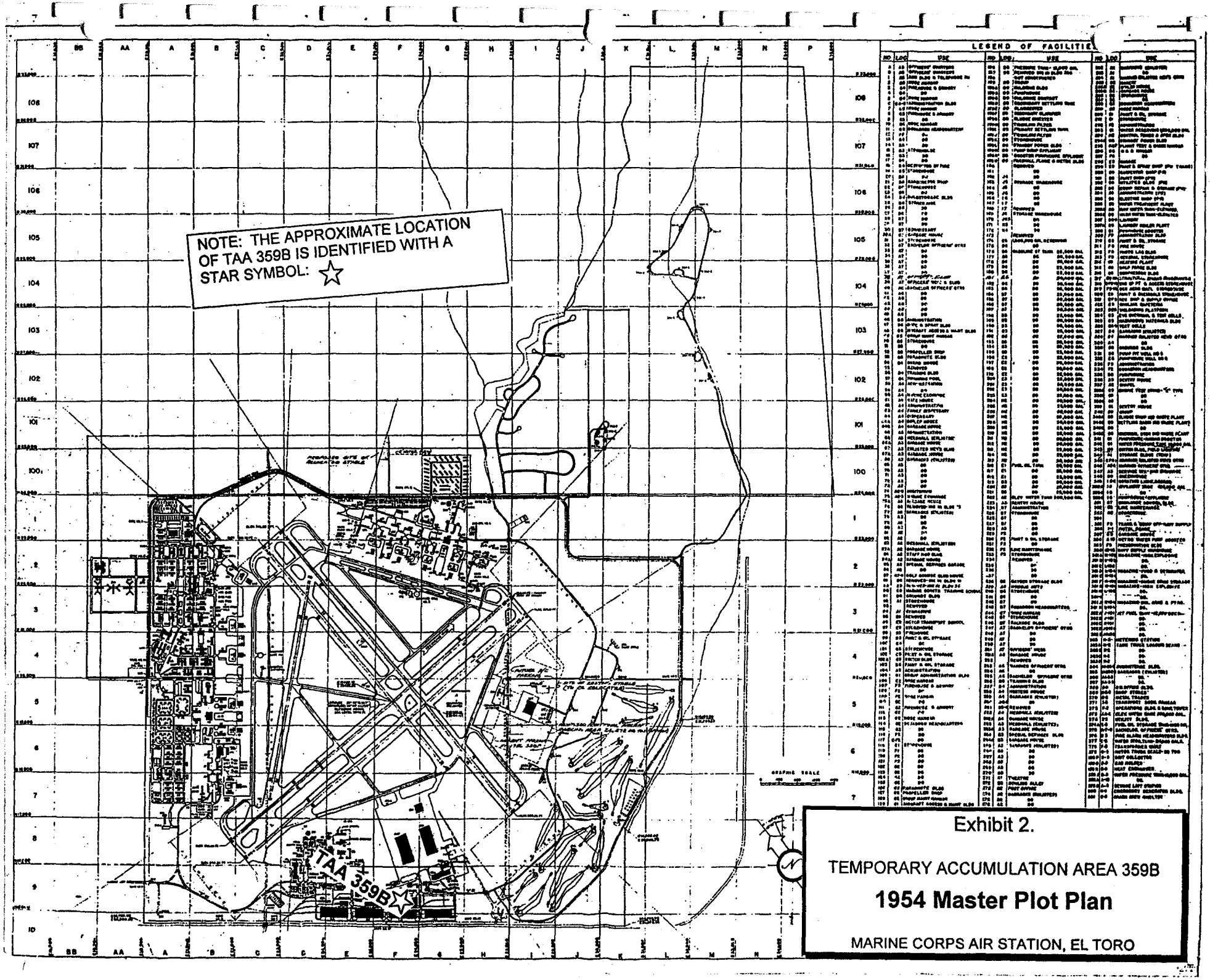
Exhibit 1.

TEMPORARY ACCUMULATION AREA 359B

The Airport and Open Space Plan (County of Orange, 1999)

MARINE CORPS AIR STATION, EL TORO

Witzel–Yanez Design 12/7/99 3:49 PM 18292502A.dwg


NOTE: THE APPROXIMATE LOCATION OF TAA 359B IS IDENTIFIED WITH A STAR SYMBOL: ☆
TAA 359B
LEGEND OF FACILITIES
Exhibit 2.
TEMPORARY ACCUMULATION AREA 359B
1954 Master Plot Plan
MARINE CORPS AIR STATION, EL TORO

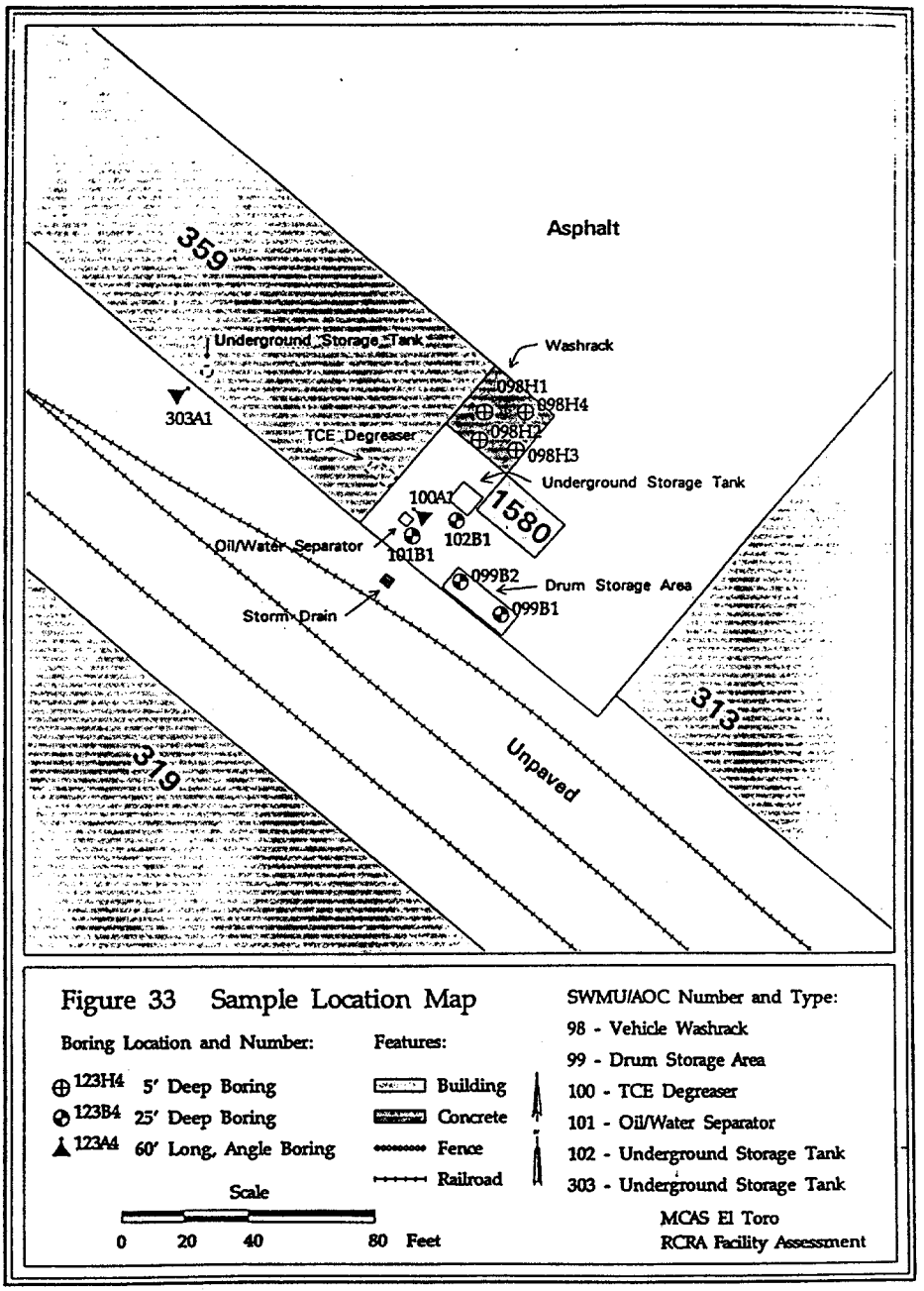


Exhibit 3.

TEMPORARY ACCUMULATION AREA 359B

RFA Map of SWMUs near Building 359

MARINE CORPS AIR STATION, EL TORO

TAA 359B Screening Risk Calculation Worksheet

Analyte	Concentration (mg/kg)	PRG (mg/kg)	Ratio	Risk	Source	Background Level (mg/kg)	Background Risk Ratio	Risk
Aluminum	6600	75000	0.088	8.8E-08	TAA359B-SBB at 1.5 feet (OHM, 1997)	14800	0.197333333	1.9733E-07
Arsenic	1.6	0.38	4.2105263	4.21E-06	OHM, 1997 TAA359B-SBB at 1.5 feet	6.86	18.05263158	1.8053E-05
Barium	110	5200	0.0211538	2.12E-08	OHM, 1997 TAA359B-SBB at 1.5 feet	173	0.033269231	3.3269E-08
Beryllium	0.39	150	0.0026	2.6E-09	OHM, 1997 TAA359B-SBB at 1.5 feet	0.669	0.00446	4.46E-09
Chromium	8.9	210	0.042381	4.24E-08	OHM, 1997 TAA359B-SBB at 1.5 feet	26.9	0.128095238	1.281E-07
Cobalt	5.9	3300	0.0017879	1.79E-09	OHM, 1997 TAA359B-SBB at 1.5 feet	6.98	0.002115152	2.1152E-09
Copper	5.1	2800	0.0018214	1.82E-09	OHM, 1997 TAA359B-SBB at 1.5 feet	10.5	0.00375	3.75E-09
Iron	10000	22000	0.4545455	4.55E-07	OHM, 1997 TAA359B-SBB at 1.5 feet	18400	0.836363636	8.3636E-07
Lead	90.3	130	0.6946154	6.95E-07	RFA (JEG, 1993) Boring 99B1 at 5 feet	15.1	0.116153846	1.1615E-07
Manganese	200	3100	0.0645161	6.45E-08	OHM, 1997 TAA359B-SBB at 1.5 feet	291	0.093870968	9.3871E-08
Nickel	6.6	150	0.044	4.4E-08	OHM, 1997 TAA359B-SBB at 1.5 feet	15.3	0.102	1.02E-07
Silver	0.82	370	0.0022162	2.22E-09	RFA (JEG, 1993) Boring 99B2 at 5 feet	0.539	0.001456757	1.4568E-09
Vanadium	24	520	0.0461538	4.62E-08	OHM, 1997 TAA359B-SBB at 1.5 feet	71.8	0.138076923	1.3808E-07
Zinc	41	22000	0.0018636	1.86E-09	OHM, 1997 TAA359B-SBB at 1.5 feet	77.9	0.003540909	3.5409E-09
Toluene	0.002	520	3.846E-06	3.85E-12	RFA (JEG, 1993) Boring 99B1 at 5 feet			
Bis(2-ethylhexyl)phthalate (DEHP)	0.11	32	0.0034375	3.44E-09	RFA (JEG, 1993) Boring 99B2 at 10 feet			
Di-n-octylphthalate	0.022	1100	0.00002	2E-11	RFA (JEG, 1993) Boring 99B2 at 10 feet			
4,4'-DDT	0.0029	1.7	0.0017059	1.71E-09	TAA359B-SBB at 1.5 feet (OHM, 1997)			
TOTAL				**5.68E-06**				**1.9713E-05**
Adjusted for risk attributable to background metals				**-1.4E-05**				

FILE: TAA359BRISK.xls

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA
INSTALLATION RESTORATION PROGRAM
FINAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY ASSESSMENT REPORT

VOLUME I

16 July 1993

EXTRACTS

PREPARED BY:
Southwest Division, Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

THROUGH:
CONTRACT #N68711-89-D-9296
CTO #193
DOCUMENT CONTROL NO:
CLE-C01-01F193-S2-0001

WITH:
Jacobs Engineering Group Inc.
3655 Nobel Drive, Suite 200
San Diego, California 92122

In association with:
International Technology Corporation
CH2M HILL

Table 6-15
Recommendations for SWMUs/AOCs
MCAS El Toro RFA

SWMU No.	SWMU/AOC Type	Recommendation (FA/NFA)	Description of Further Action	Rationale for Further Action
84	Oil/Water Separator	FA	Leak test/inspection of separator	Moderate petroleum hydrocarbon contamination at 10-foot dept
88	Drum Storage Area	FA	Shallow soil borings	Potential for PCBs in shallow soil
90	Former Sewage Treatment Plant Sit	NFA	--	--
91	Underground Storage Tank	NFA	--	--
92	Underground Storage Tank	NFA	--	--
95	Engine Test Cell	NFA	--	--
98	Vehicle Wash Rack	NFA	--	--
99	Drum Storage Area	NFA	--	--
100	TCE Degreaser	NFA	--	--
101	Oil/Water Separator	NFA	--	--
102	Underground Storage Tank	NFA	--	--
107	Hazardous Waste Storage Area	NFA	--	--
110	Vehicle Wash Rack	FA	Repair cracks in pavement	Prevent future migration of petroleum hydrocarbons
112	Oil/Water Separator	NFA	--	--
116	Drum Storage Area	NFA	--	--
120	Vehicle Wash Rack	NFA	--	--
124	Hazardous Waste Storage Area	NFA	--	--
125	Hazardous Waste Storage Area	NFA	--	--
129	Underground Storage Tank	NFA	--	--
130	Drum Storage Area	NFA	--	--
131	Engine Test Cell	FA	Shallow soil borings	SVOC above PRG value
132	Oil/Water Separator	NFA	--	--
137	Oil/Water Separator	NFA	--	--
138	Drum Storage Area	NFA	--	--
139	Oil/Water Separator	NFA	--	--
144	Drum Storage Area	NFA	--	--
145	Underground Storage Tank	FA	Additional boring(s)	Petroleum hydrocarbon contamination, unknown extent
147	Drum Storage Area	NFA	--	--
149	Drum Storage Area	NFA	--	--
151	Oil/Water Separator	FA	Leak test/inspection of separator	Moderate petroleum hydrocarbon contamination at 10-foot dept

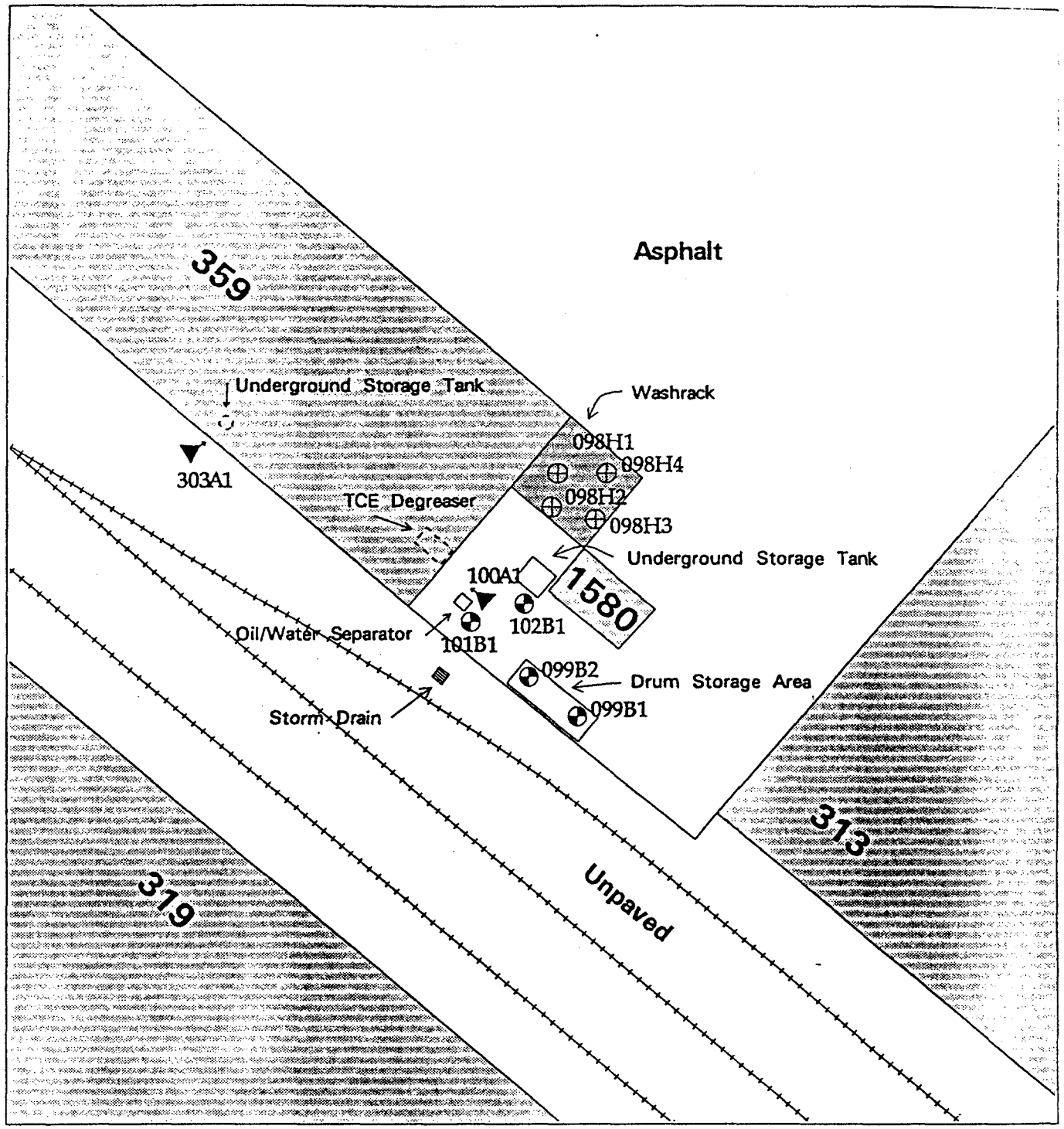


Figure 33 Sample Location Map

Boring Location and Number:

- ⊕ 123H4 5′ Deep Boring
- ◔ 123B4 25′ Deep Boring
- ▲ 123A4 60′ Long, Angle Boring

Features:

- Building
- Concrete
- Fence
- Railroad

Scale

0 20 40 80 Feet

SWMU/AOC Number and Type:

- 98 - Vehicle Washrack
- 99 - Drum Storage Area
- 100 - TCE Degreaser
- 101 - Oil/Water Separator
- 102 - Underground Storage Tank
- 303 - Underground Storage Tank

MCAS El Toro
RCRA Facility Assessment

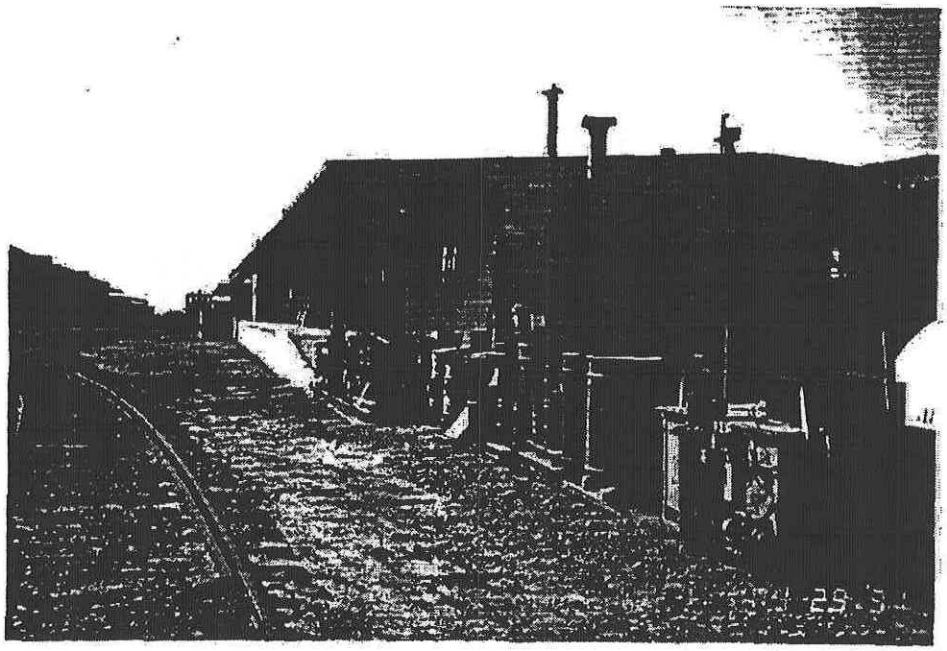
Evaluation Form
SWMU/Area of Concern
Number 99

Name: Drum Storage Area

Location: Southwest of Building 359

Size: Approximately 160 sq ft

Date of Site Visit: 24 April 1991



Period of Operation

Currently active

Evaluation Form
SWMU/Area of Concern
Number 99

Unit Characteristics

A DSA near Building 359 was identified in a letter dated 29 June 1989 from the RWQCB to Lt. Mike Rehor. The DSA is located near the southwestern corner of Building 359. About 100 containers and drums of various size are stored about 20 ft south of the southwestern corner of Building 359. The drums and containers are stored on wood pallets in an unpaved area. A large dark stain can be found on the ground near the center of the storage area where two empty 55-gallon drums are stored.

Twelve 14-gallons containers of Component "A" are stored on asphalt paved ground, adjacent to the southeastern wall of Building 359. See Evaluation Form SWMU/AOC Number 254 for a description of the storage area.

Waste Characteristics

Various products
Component "A"

Possible Migration Pathways

Surface soil

Evidence of Release

Stain near 55-gallon drums

Exposure Potential

On-Station personnel

Recommendations

There is a stain on unpaved soil at this DSA. A sampling visit is recommended for this SWMU/AOC.

MCAS EL TORO RCRA FACILITY ASSESSMENT --SAMPLING VISIT RESULTS

SWMU/AOC NUMBER	SWMU/AOC TYPE (FIGURE)	BORING NUMBER	SAMPLE DEPTH (FEET)	ANALYTICAL TEST RESULTS							RECOMMENDATIONS	
				TPH (mg/kg)	TFH (mg/kg)		VOCs (ug/kg)	SVOCs (ug/kg)	PESTICIDES/PCBs (ug/kg)	METALS (mg/kg)	Action	Rationale
					Gasoline	Diesel						
99	Drum Storage Area (33)	B1	5	ND	ND	ND	Methylene Chloride-8 BJ * Toluene-1 J	Diethylphthalate-20 BJ * Di-n-butylphthalate-65 BJ * Bis(2-Ethylhexyl)phthalate-60 BJ *	ND	Silver-ND Lead-90.3	NFA	TPH/TFH < 100 ppm VOCs < CRDL SVOCs < ETM & PRG Pest/PCB < CRDL Metals < ETM & PRG CRDL - Contract Required Detection Limit
			10	ND	ND	ND	Methylene Chloride-5 BJ * Toluene-1 J	Diethylphthalate-35 BJ * Di-n-butylphthalate-37 BJ * Bis(2-Ethylhexyl)phthalate-580 B	ND	Silver-ND Lead-1.7		
			15	ND	ND	ND	Methylene Chloride-6 BJ * Toluene-2 J	Diethylphthalate-43 BJ * Di-n-butylphthalate-51 BJ * Bis(2-Ethylhexyl)phthalate-39 BJ *	ND	Silver-ND Lead-2.9		
			20	ND	ND	ND	Methylene Chloride-7 BJ * Toluene-2 J	Diethylphthalate-25 BJ * Di-n-butylphthalate-69 BJ * Bis(2-Ethylhexy)phthalate-920 B	ND	Silver-ND Lead-0.7		
			25	ND	ND	ND	Methylene Chloride-7 BJ * Toluene-2 J	Diethylphthalate-31 BJ * Di-n-butylphthalate-61 BJ * Bis(2-Ethylhexyl)phthalate-160 BJ *	ND	Silver-ND Lead-1.2		
			25 (Duplicate)	ND	ND	ND	Methylene Chloride-5 BJ * Toluene-1 J	Diethylphthalate-18 BJ * Di-n-butylphthalate-44 BJ * Bis(2-Ethylhexyl)phthalate-64 BJ *	ND	Silver-ND Lead-5.1		
		B2	5	ND	ND	ND	Methylene Chloride-9 BJ * Toluene-1 J	Bis(2-Ethylhexyl)phthalate-94 J	ND	Silver-0.82 B Lead-2.3		
			10	ND	ND	ND	Methylene Chloride-10 BJ *	Diethylphthalate-22 BJ * Di-n-butylphthalate-23 BJ * Bis(2-Ethylhexyl)phthalate-110 J Di-n-octylphthalate-22 J	ND	Silver-ND Lead-1.1		
			15	ND	ND	ND	Methylene Chloride-8 BJ *	Diethylphthalate-170 BJ * Di-n-butylphthalate-23 BJ * Bis(2-Ethylhexyl)phthalate-66 J	ND	Silver-ND Lead-3.9		
			20	ND	ND	ND	Methylene Chloride-6 BJ *	Diethylphthalate-22 BJ * Bis(2-Ethylhexyl)phthalate-94 J	ND	Silver-ND Lead-4.5		
			25	ND	ND	ND	Methylene Chloride-7 BJ * Toluene-2 J	Diethylphthalate-44 BJ * Di-n-butylphthalate-20 BJ * Bis(2-Ethylhexyl)phthalate-68 J	ND	Silver-ND Lead-1.7		

PROJECT NUMBER	BORING NUMBER
LA070022.RV	99B-1 SHEET 1 OF 1

SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO

ELEVATION _____ DRILLING CONTRACTOR BEYLIK DRILLING INC, LA HABRA, CALIFORNIA

DRILLING METHOD AND EQUIPMENT HOLLOW STEM AUGERS

WATER LEVELS _____ START 11-10-92 FINISH 11-11-92 LOGGER J.FRIZENSCHAF

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (FT)	SAMPLE TYPE AND NUMBER	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6"	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Surface material consists of one foot of depth of poorly graded sand with gravel and white concretions, yellowish color.
5.0	5.0					
	7.0	1-MC	1.5	5-6-10-17	SANDY SILT, (ML), light brown, dry, very stiff, homogeneous with small gravel.	OVA = 0 ppm HNu = 0 ppm Strong odor of mothballs in all the soil samples.
	10.0					
10.0	12.0	2-MC	2.0	10-19-21-28	10.0' to 11.0': SILT, (ML), light brown, moist, very stiff, plastic, white concretions and quartz particles.	OVA = 0 ppm HNu = 0 ppm
	14.0	2a-MC	1.75	4-16-21-31	11.0' to 12.0': POORLY GRADED SAND WITH SILT, (SP-SM), light brown, dry, medium dense to dense, homogeneous with white concretions.	OVA = 0 ppm HNu = 0 ppm
	15.0					
15.0	17.0	3-MC	1.75	15-27-31-45	POORLY GRADED SAND WITH SILT, (SP-SM), light brown, dry, dense, homogeneous with white concretions. SILT, (ML), dark brown, moist, hard, layered with white concretions and few quartz particles.	OVA = 0 ppm HNu = 0 ppm
	20.0					
20.0	22.0	4-MC	2.0	18-20-20-23	20.0' to 21.0': SILT, (ML), dark brown, moist, very stiff, layered with white concretions, fairly plastic. 21.0' to 22.0': WELL GRADED SAND WITH GRAVEL, (SW), light gray, dry, medium dense, homogeneous.	OVA = 20 ppm HNu = 0 ppm
	25.0					
25.0	27.0	5-MC	2.0	16-24-27-38	LEAN CLAY, (CL), dark brown, moist, hard, homogeneous.	OVA = 20 ppm HNu = 0 ppm
	29.0	5a-MC	1.5	20-12-33-40	POORLY GRADED SAND WITH SILT AND GRAVEL, (SP-SM), light brown, moist, dense, homogeneous.	OVA = 50 ppm HNu = 0 ppm
30.0					END OF BORING AT 29.0 FEET	

PROJECT NUMBER	BORING NUMBER
LA070022.RV	99B-2 SHEET 1 OF 1

SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO

ELEVATION _____ DRILLING CONTRACTOR BEYLIK DRILLING INC, LA HABRA, CALIFORNIA

DRILLING METHOD AND EQUIPMENT HOLLOW STEM AUGERS

WATER LEVELS _____ START 11-11-92 FINISH 11-11-92 LOGGER J.FRIZENSCHAF

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL (FT)	SAMPLE: TYPE AND NUMBER	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6"	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Surface material consists of poorly graded sand with gravel and white concretions, yellowish color.
5.0	5.0					
	7.0	1-MC		7-12-20-28	SANDY SILT WITH GRAVEL, (ML), light brown, moist, very stiff to hard, homogeneous, with white concretions fairly plastic.	OVA = 5 ppm HNu = 0 ppm
10.0	10.0					
	12.0	2-MC	1.0	7-10-15-18	Similar to 1-MC, except very stiff.	OVA = 0 ppm HNu = 0 ppm
	14.0	2a-MC	2.0	20-32-41-43	POORLY GRADED SAND WITH SILT, (SP-SM), light brown, moist, very dense, homogeneous with white concretions, some plasticity, fine grained sand.	OVA = 0 ppm HNu = 0 ppm
15.0	15.0					
	17.0	3-MC	2.0	13-20-21-43	POORLY GRADED SAND WITH SILT, (SP-SM), light brown, moist, dense, fine grained sand, homogeneous, with white concretions, some plasticity.	OVA = 0 ppm HNu = 0 ppm
20.0	20.0					
	22.0	4-MC	2.0	12-13-14-50	20.0' to 21.0': WELL GRADED SAND, (SW), light brown, dry, medium dense, homogeneous. 21.0' to 22.0': POORLY GRADED SAND WITH SILT, (SP-SM), light brown, moist, medium dense, homogeneous.	OVA = 0 ppm HNu = 0 ppm
25.0	25.0					
	27.0	5-MC	2.0	4-13-21-27	POORLY GRADED SAND WITH SILT AND GRAVEL, (SP-SM), light brown, moist, medium dense, homogeneous.	OVA = 0 ppm HNu = 0 ppm
					END OF BORING AT 27.0 FEET	
30.0						

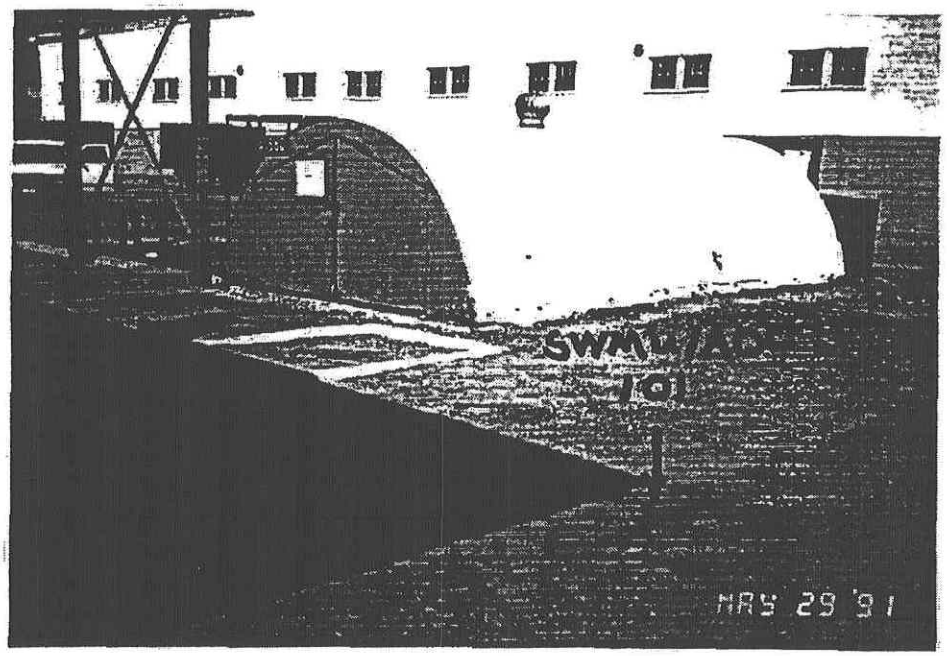
Evaluation Form
SWMU/Area of Concern
Number 101

Name: Oil/Water Separator 359-B

Location: South of Building 359

Size: 100 gallons

Date of Site Visit: 24 April 91



Period of Operation

Installed in 1952
Currently active

Evaluation Form
SWMU/Area of Concern
Number 101

Unit Characteristics

Oil/water Separator 359-B is located about 50 ft west of the washrack and about 10 ft south of Building 359. The oil/water separator was installed in 1952. It consists of a 100-gallon, concrete-lined tank. The location of the oil/water separator is identified by a 2-ft x 2-ft steel cover. Because the oil/water separator is located underground, its physical condition could not be visually observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the visual site inspection, it is difficult to assess the potential for release from this underground SMWU/Area of Concern. For this reason, a sampling visit is suggested for this UST.

MCAS EL TORO RCRA FACILITY ASSESSMENT -- SAMPLING VISIT RESULTS

SWMU/AOC NUMBER	SWMU/AOC TYPE (FIGURE)	BORING NUMBER	SAMPLE DEPTH (FEET)	ANALYTICAL TEST RESULTS							RECOMMENDATIONS	
				TPH (mg/kg)	TFH (mg/kg)		VOCs (ug/kg)	SVOCs (ug/kg)	PESTICIDES/PCBs (ug/kg)	METALS (mg/kg)	Action	Rationale
					Gasoline	Diesel						
101	Oil/Water Separator (33)	B1	5	170	NA	NA	Methylene Chloride-7 BJ * Acetone-9 BJ *	NA	NA	NA	NFA	TPH/TFH < 1000 ppm VOCs < CRDL
			10	83	NA	NA	Methylene Chloride-7 BJ * Acetone-6 BJ *	NA	NA	NA		
			15	100	NA	NA	Methylene Chloride-4 BJ * Acetone-11 B *	NA	NA	NA		CRDL - Contract Required Detection Limit
			20	122	NA	NA	Methylene Chloride-5 BJ * Acetone-11 BJ *	NA	NA	NA		
			25	ND	NA	NA	Methylene Chloride-8 BJ *	NA	NA	NA		

PROJECT NUMBER	BORING NUMBER	
LA070022.RV	1018-1	SHEET 1 OF 1

SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO

ELEVATION _____ DRILLING CONTRACTOR BEYLIK DRILLING INC, LA HABRA, CALIFORNIA

DRILLING METHOD AND EQUIPMENT HOLLOW STEM AUGERS

WATER LEVELS _____ START 11-14-92 FINISH 11-14-92 LOGGER J.FRIZENSCHAF

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL (FT)	SAMPLE: TYPE AND NUMBER	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6"	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Surface material consists of fine grained, brown silty sand with with gravel and roots.
5.0	5.0					
	6.5	1-MC	1.0	10-10-19	POORLY GRADED SAND WITH SILT AND GRAVEL, (SP-SM), light brown, moist, medium dense, trace clay content.	OVA = 0 ppm HNu = 0 ppm
	10.0					
10.0	11.5	2-MC	2.0	6-12-26	Similar to 1-MC, no clay.	OVA = 0 ppm HNu = 0 ppm
	15.0					
15.0	16.5	3-MC	1.5	10-15-25	15.0' to 16.0': Similar to 2-MC. 16.0' to 16.5': LEAN CLAY, (CL), light brown, moist, hard, silty, homogeneous with white concretions.	OVA = - ppm HNu = 0 ppm
	20.0					
20.0	21.5	4-MC	1.5	15-22-24	20.0' to 21.0': LEAN CLAY, (CL), light brown, moist, very stiff to hard, silty, homogeneous with white concretions. 21.0' to 21.5': POORLY GRADED SAND WITH SILT AND GRAVEL, (SP-SM), light brown, moist, medium dense to dense, homogeneous.	OVA = 0 ppm HNu = 0 ppm
	25.0					
25.0	26.5	5-MC	1.5	10-12-17	LEAN CLAY, (CL), light brown, moist, very stiff, silty, with micaceous particles and black stains.	OVA = 0 ppm HNu = 0 ppm
					END OF BORING AT 26.5 FEET	
30.0						

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA
INSTALLATION RESTORATION PROGRAM
FINAL ENVIRONMENTAL
BASELINE SURVEY REPORT

01 April 1995

Revision 0

EXTRACTS

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

PREPARED BY:
Southwest Division, Naval Facilities
Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

THROUGH:
CONTRACT #N68711-89-D-9296
CTO #284
DOCUMENT CONTROL NO:
CLE-C01-01F284-S2-0004

WITH:
Jacobs Engineering Group Inc.
401 West A Street, Suite 1905
San Diego, California 92101

In association with:
International Technology Corporation
CH2M HILL

Table 3-7
Less Than 90-Day Accumulation Area Inventory
MCAS El Toro EBS Report - April 1995

Database Tracking	Building Number	Status	SWMU/ AOC	Comments	AREA TYPE
SAA 2	2	Active		Identified in 1994 SPCC Plan	7
SAA 5A	5	Inactive	25	Sampling Visit Not Recommended During PR/VSI	2
SAA 5B	5	Active	26	RFA recommended excavation of shallow stained soil.	6
SAA 7	7	Inactive		Identified in 1994 SPCC Plan	7
SAA 10	10	Active	27	RFA recommended NFA	2*
SAA 19	19	Active		Identified in Station's HW Open Drum Inspection Report	7
SAA 22	22	Active		Identified in 1994 SPCC Plan	7
SAA 29A	29	Inactive	30	RFA recommended NFA	3*
SAA 29B	29	Inactive	31	Sampling Visit Not Recommended During PR/VSI	7
SAA 31A	31	Active	272	RFA recommended NFA	3
SAA 31B	31	Inactive		Identified in 1994 SPCC Plan	7
SAA 51	51	Active	33	Excavate Shallow Stained Soil	6
SAA 77	77	Active		Identified in Station's HW Open Drum Inspection Report	7
SAA 114	114	Inactive	38	Sampling Visit Not Recommended During PR/VSI	2
SAA 115	115	Active	39	Shallow Soil Borings Recommended	7
SAA 130A	130	Inactive	294	Sampling Visit Not Recommended During PR/VSI	2
SAA 130B	130	Active	295	Sampling Visit Not Recommended During PR/VSI	2
SAA 130C	130	Inactive	42	Sampling Visit Not Recommended During PR/VSI	2
SAA 155A	155	Inactive	240	No evidence of release	2
SAA 155B	155	Inactive	241	RFA recommended NFA	3
SAA 155C	155	Inactive	45	RFA recommended NFA	3
SAA 240	240	Inactive	64	Sampling Visit Not Recommended During PR/VSI	2
SAA 242	242	Inactive	67	Sampling Visit Not Recommended During PR/VSI	7
SAA 289	289	Active	70	RFA recommended NFA	3
IRP 7	295	Active	71	IRP Site 7 (1)	6
IRP 7	296	Active	72	IRP Site 7 (1)	6
SAA 297	297	Active	73	RFA recommended NFA	3
SAA 298	298	Inactive	83	RFA recommended NFA	2
SAA 306	306	Inactive	88	Shallow Soil Borings Recommended	7
SAA 307	307	Active		Identified in Station's HW Open Drum Inspection Report	7
SAA 314	314	Inactive	269	RFA recommended NFA	3
SAA 317	317	Inactive	93	Sampling Visit Not Recommended During PR/VSI	2
IRP 21	320	Active	94	IRP Site 21 (1)	6
SAA 357	357	Inactive	97	Sampling Visit Not Recommended During PR/VSI	2
SAA 359A	359	Inactive	254	Sampling Visit Not Recommended During PR/VSI	2
SAA 359B	359	Inactive	99	RFA recommended NFA	3
IRP 8	360	Inactive	104	IRP Site 8 (1)	6
IRP 8	360	Inactive	105	IRP Site 8 (1)	6
IRP 8	360	Inactive	106	IRP Site 8 (1)	6
SAA 370	370	Active		Identified in 1994 SPCC Plan	7
SAA 371A	371	Active	107	RFA recommended NFA	2
SAA 371B	371	Inactive	242	RFA recommended NFA	3
SAA 386	386	Active	114	Sampling Visit Not Recommended During PR/VSI	2
SAA 388A	388	Active	116	RFA recommended NFA	3
SAA 388B	388	Inactive	251	Sampling Visit Not Recommended During PR/VSI	2
SAA 389A	389	Inactive	119	Sampling Visit Not Recommended During PR/VSI	2
SAA 389B	389	Inactive	259	Sampling Visit Not Recommended During PR/VSI	2
SAA 390A	390	Active	122	Sampling Visit Not Recommended During PR/VSI	2
SAA 390B	390	Inactive	261	RFA recommended NFA	3
SAA 392A	392	Active	124	RFA recommended NFA	3
SAA 392B	392	Inactive	271	RFA recommended NFA	3
SAA 398	398	Inactive	252	RFA recommended NFA	3

STORM WATER POLLUTION PREVENTION PLAN

(SWPPP)

FOR

MARINE CORPS AIR STATION EL TORO

EL TORO, CALIFORNIA

CONTRACT NO. N68711-96-D-2059
DELIVERY ORDER NO. 0002

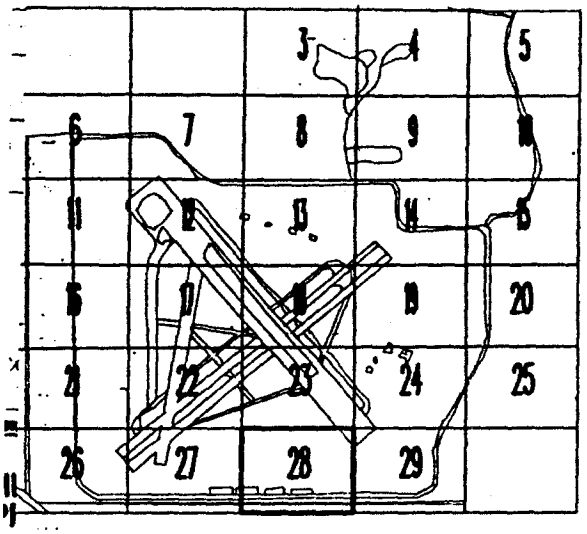
EXTRACTS

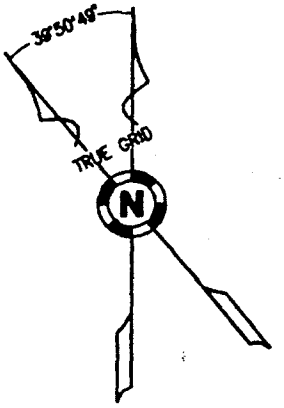
VOLUME 1

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

JULY, 1997

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.





KEY PLAN

SCALE: NONE

1"=150'-0"

150 0 150 300

SCALE FEET

ESS THAN 22X34 IT IS A REDUCED PRINT SCALE ACCORDINGLY

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D ENVIRONMENTAL MANAGEMENT, INC.

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DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

SOUTHWEST DIVISION

EL TORO CALIFORNIA

CHK.

MARINE CORPS AIR STATION EL TORO, CA.

TE

"MCAS" EL TORO

FP

AREA 28 - STORM DRAINS

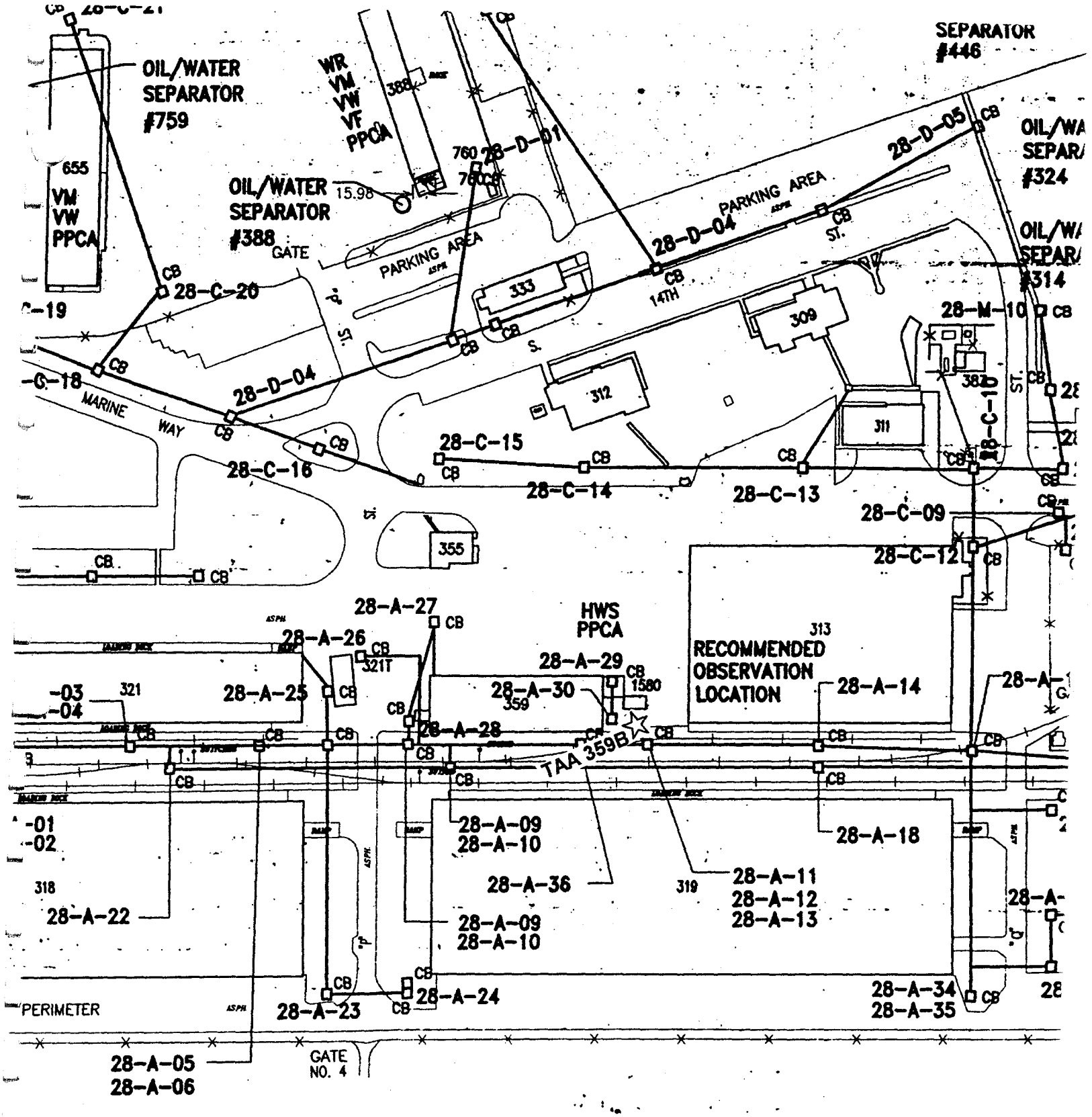
TE

SIZE	CODE IDENT. NO.	NAVFAC. DRAWING NO.
D		
		CONT. CONTR. NO. XXXXX

TE

AVFAC

SCALE	SPEC.	SHEET OF


OIL/WATER SEPARATOR #759
655
VM
VW
PPCA
WR
VM
VW
VF
PPCA
388
760
760C
28-D-01
OIL/WATER SEPARATOR #388
15.98
GATE
PARKING AREA
28-D-04
28-D-05
SEPARATOR #446
OIL/WA SEPAR #324
OIL/WA SEPAR #314
28-M-10
28-C-20
28-C-19
28-C-18
MARINE WAY
333
309
312
311
14TH ST.
S. St.
28-C-15
28-C-16
28-C-14
28-C-13
28-C-09
28-C-12
355
28-A-27
28-A-26
28-A-25
28-A-28
28-A-29
28-A-30
HWS PPCA
RECOMMENDED OBSERVATION LOCATION
313
28-A-14
TAA 359B
28-A-09
28-A-10
28-A-36
28-A-11
28-A-12
28-A-13
28-A-18
28-A-22
28-A-23
28-A-24
28-A-34
28-A-35
28-A-05
28-A-06
PERIMETER
GATE NO. 4
321
321T
359
1580
318
319
CB
ASPH

EXTRACTS

EXTRACTS

5. STORM WATER POLLUTION PREVENTION EVALUATION

Because of its mission as a part of the National Defense system, MCAS El Toro has numerous facilities and activities where there is potential for pollutants to contact storm water. These facilities include fueling operations, wash racks for aircraft, vehicles, and equipment, engine repair and maintenance, and support facilities that use or store significant quantities of materials containing potential pollutants.

Discharges from MCAS El Toro occur at various locations. Storm water run-off enters Agua Chinon Wash, Bee Canyon Wash, Rifle Range Road Ditch, San Diego Creek, and Upper Newport Bay. A Site Topographic Map shows the locations of discharges leaving the air station. To provide a clearer understanding of the hydrologic conditions at MCAS El Toro, each drainage basin has been modeled using the U.S. Environmental Protection Agency's Storm Water Management Model, as described in the Watershed Characterization Report (Volume 3). The physical characteristics of each drainage basin (e.g., percent impermeability, etc.). are also discussed in that report.

The facilities at MCAS El Toro were investigated from field visits in 1993 to determine whether they were of limited concern or were more likely to be a possible threat to water quality. Addressed in the following sections are those buildings of concern within each Drainage Basin. Each building or activity observed during field observations is listed and discussed by drainage basin.

5.1 DRAINAGE BASIN 1

This drainage basin comprises most of the buildings in Areas 27 and 28. It has a map area of about 188 acres.

5.1.1 Buildings of Limited Concern

The buildings listed below in Table 5-1 do not use, handle, transport or store significant quantities of industrial materials nor do they generate significant amounts of liquid or solid industrial pollutants, and they do not appear to be of concern to the quality of storm water discharges:

TABLE 5-1

BASIN 1

BUILDINGS OF LIMITED CONCERN

BLDG #	DESCRIPTION	TENANT
96	Transportation Office	Station/G-4
155	Grounds Equipment Shed	Installation
156	Storage Tank/Potable Water	Installation
174	Storage Tank/Potable Water	Installation
175	Storage Tank/Potable Water	Installation
299	GME/G-4	Installation
301	PW Administration/Labor Shop	Installation
304	Academic Instruction (EEO)	HRO
305	Group Headquarters	MWSG-37
309	Group Headquarters	MWSG-37
312	Photographic Building	Vacant
313*	Field Maintenance Shop	CSSD-14
	Storage out of Stores	MWSS-373
315	MWSS-473	
319	General Warehouse -MC (DRMO)	DRMO
	General Warehouse - Navy	Supply
321	General Warehouse - MC	Supply
324	Comm/MT/Const/TAFDS	MWSS-374
	Storage	Station/Fire
	CO2 Storage	Station/Fire
325*	Hazardous/Flammable Storehouse	FREST
326*	Hazardous/Flammable Storehouse	Environment
333	Field Maintenance Shop	CSSD-14
335	Water Distribution Building	Installation

TABLE 5-1

BASIN 1

BUILDINGS OF LIMITED CONCERN

BLDG #	DESCRIPTION	TENANT
379	Truck Weighing Facility	Supply
383	Electrical Distribution Substation #2	Installation
387	Loading/Unloading Ramp	CSSD-14
435*	Aircraft Fire and Rescue Station	Station G-3
530	Storage Tank/Potable Water	Installation
616	Administration Office	Installation
700*	Filling Station C-Pool	Supply
742	Electrical Shop Storage	Installations
759*	Vehicle Washrack Utility Building	CSSD-14
760*	Vehicle Washrack Utility Building	CSSD-14
789	Sewage Monitoring Station	Installation
824	Crash Crew and Station Recovery	Station G-3
827	Supply Loading Ramp	Supply
853	Loading Ramp	Supply
859*	Recreational Vehicle Dump Site	MWR-Rec
862*	Hazardous Waste Storage Transfer Tank	Environment
866	Sentry House # 4	Security
867	Sentry House #5	Security
926	DRMO Office, Disposal Yard #1	DRMO
1703	Hazardous/Flammable Storehouse	Supply
1710*	Public Works Maintenance Storage	Installation

* Buildings with an asterisk indicate facilities which were not involved in any industrial activities or did not store any hazardous materials at the time of our field observations. However, these facilities appear to have been involved in activities of potential concern in the past. If activities of concern resume in the future, site specific BMPs should be adopted. These facilities/activities should be reviewed on an annual basis in order to update this plan as necessary.

5.1.2 Buildings of Concern

The following buildings or facilities use or otherwise deal with industrial materials and therefore are considered to be of concern as potential sources of pollution to the storm water system. In some cases, this potential is limited; however, best management practices are suggested in all instances where any potential was noted.

Building 297 - Maintenance Hangar OH Space - VMGR-352

Industrial activities involve light maintenance of KC-130 fixed wing and CH-53 and CH-46 rotary wing aircraft. Potential pollutants are JP-5 fuel, diesel fuel, grease, oil, and paints. Outside and adjacent to building 297 is a Paint Workroom Shed which is not bermed. Flammable material is stored in two Hazardous/Flammable Storage Buildings (#919 and #920). Near Building 297 there is one hazardous waste storage site which has secondary containment consisting of a concrete berm. The hazardous waste storage site is fenced and covered, however the awning covering the site appears too high to be of significant protection against wind driven rain. A spill cleanup kit and a Spill Prevention, Cleanup, Countermeasures Plan (SPCCP) were present and personnel had received spill cleanup training. Aircraft are parked on the tarmac outside of Building #297 and oil was observed to be leaking into nearby storm drains.

Current BMPs included daily dry sweeping of the hanger deck, placement of drip pans under engines undergoing maintenance, and routine sweeping of the hanger deck with a self contained wash/sweeper truck. Flammable material is removed from the storage lockers for the day's activity, then returned to the locker at the end of each day. Recommended BMPs include placing drip pans underneath aircraft to contain oil and fuel leaks as necessary.

Building 298 - Auto Vehicle Maintenance Shop - GME/G-4.

Industrial activities involved vehicle maintenance, vehicle washing and vehicle fueling. There is an uncovered fueling bay located east of the building. Potential pollutants included motor oil, gasoline, antifreeze, lubrication grease, and solvents. A small wash rack is also located at this facility. Drainage from the wash rack is routed to an oil/water separator (#298). The separator discharges to the sanitary sewer via diversion valves. Floor drains inside building 298 also drain to the oil/water separator. There was no secondary containment for any of the chemicals inside Building 298. A spill kit and spill cleanup training were present as well as a SPCCP.

separator diversion valve is not always "on" and that the wash rack drain must not be used to dump waste materials. Secondary containment, in the form of drip pans or secondary containment pallets, should be provided for chemicals temporarily stored and/or used inside the hanger.

Building 300 - Environmental Office/ Storage Area/ Public Works Area - Installation.

Potential pollutants included paints, thinners, adhesive, insulation and asphalt emulsion. Flammable chemicals were stored in two small metal paint lockers located inside the storage yard behind Building #300. The paint storage lockers were placed in drip pans to provide secondary containment. An additional large locker storing flammable materials was also located outside in the yard behind Building #300.

BMP recommendations are to distribute the existing SPCCP and install a spill cleanup kit. The storage lockers should be placed under cover to eliminate exposure to rain. Personnel should receive training in spill response techniques.

Building 302 - Public Works Electrical Shop - Installation

This facility provides office and storage space for the electrical department. No industrial activity takes place at the site, however, many vehicles and motorized equipment are stored behind the building. Two drums are stored on a rack; one with a drip pan and one without a drip pan. The storage area drains to a storm drain located at the southeast corner of Building #370.

Recommended BMPs include the removal of the drum storage or placing the drums in a covered storage area with secondary containment. Stored vehicles and equipment should be routinely inspected for fuel and oil leaks and drip pans should be used as necessary. A spill kit and SPCCP should be installed at the site and personnel trained in their use.

Building 306 - Public Works Pipe/Heating/Refrigerant Shop - Installation

There were no chemical pollutant discharges observed. An informal wash rack was located in the yard at the southeast corner of Building #306. Washing of equipment at this location allows waste wash water to runoff into a storm drain ditch along the south side of the building. Placement of metal containers outside the building, especially those containing waste materials, should not be allowed because of the nearby storm drain.

Building 307 - EAF Weight Handling Shop (MWSS-373)/ EOD (MWSS-374)/ EAF Storage (MWSS-373)/SOMS Recovery Headquarters (SOMS)

Activity at Building 307 includes rescue vehicle maintenance and washing. Potential pollutants included fuel, oil, antifreeze, and flammable liquids. The floors were swept on a regular basis and a biodegradable detergent was used for vehicle washing. Truck docks along the west side of the building showed evidence of being washed down with water. Personnel had been instructed to dry sweep any spills; however, training which emphasizes all aspects of the SPCCP should be provided, and a copy of the document should be kept in an accessible area. A mobile pump trailer was located on the grass yard at the east side of Building 307 inside a secondary containment structure consisting of plastic sheeting and a sand bag berm. This location is in a shallow storm drain swale where storm water runoff, irrigation and or waste wash water could overflow the berm and release any leaked oil or fuel.

A small, bermed hazardous waste materials concrete pad containing drummed waste fuel, oil filters, and painting tools was located at the south side of the driveway on the east side of Building 307. No sump, cover, or fence was located at this facility. A spill cleanup kit is available at this facility. Two additional hazardous waste storage areas, reported to be the responsibility of SOMS, are located on unpaved ground west of Building 307. One site consists of a shallow, plastic sheeted depression ringed by a low berm of weathered sand bags and contains 55-gallon Drums, small containers, and auto batteries. The 55-gallon drums and smaller containers were observed to contain oils, thinners, oily rags, and petroleum distillates. The other hazardous waste storage site consisted of a shallow, plastic lined depression ringed by a low berm of sand bags containing a storage shed and lockers. These storage areas were observed to contain corrosives. Three drums of new anti-freeze were stored on a pallet outside of the secondary containment area.

BMP recommendations include either removing the hazardous waste storage areas or providing a concrete pad/secondary containment berm with an overhead awning. Washing down of the truck dock with water should be discontinued and replaced with dry sweeping. The mobile pump trailer should be moved from its present location and stored under cover with secondary containment to eliminate the potential for storm water flow in the swale from transporting contaminants to the storm drain system. Spill cleanup kits should be placed at the hazardous waste storage areas and personnel trained in their use. A copy of the SPCCP should also be provided.

BMP recommendations are to install an oil/water separator or prohibit vehicle washing, except at designated locations.

Building 314 - Highbay Storage - Supply.

There were no apparent current industrial activities in this building. However, drum storage inside the building, including liquid chlorine, was observed with no secondary containment. An oil/water separator (#314) was connected to floor drains inside the building; however, these floor drains have been closed and cemented. The oil/water separator could be removed; or if it could potentially be used again, it should be checked to insure proper operation and proper connections.

BMP recommendations include providing secondary containment for the inside drum storage, installing a spill kit, provide training of personnel in the use of the spill kit, and provide a copy of the SPCCP.

Building 317 - Commissary Warehouse - DECA)/Marine Corps Supply - Supply

Activities of potential concern included shipping and receiving of various goods such as soaps and detergents along with other dry goods. Drums of cleaning compounds and other substances are stored outside. Fork lift battery charging area was observed to be severely stained and etched from spilled battery fluids. Two small paint lockers were located on pallets outside near the west end of the building with no secondary containment. Tractor-trailers parked outside present a potential source of pollution if they leak in this area.

Best management practices included the daily sweeping and scrubbing of the interior floors with detergent. A SPCCP was present and the workers have spill cleanup training. However, no spill kit was observed within the building. BMP recommendations are to obtain a spill kit, properly dispose of surplus materials/ wastes/ equipment or store under cover, provide secondary containment, and correctly label and store waste. Non-metallic drip pans should be placed under fork lifts during battery recharging.

Building 317C1 - Fenced Storage Yard - *Federal Disposal Service*

This storage yard contains equipment related to disposal of solid waste/garbage at MCAS El Toro. Oil was observed to have leaked from a waste storage bin containing used hydraulic equipment which is located beside a storm water drainage ditch. A wash rack was also located at the site with no apparent secondary containment. No oil/water separator was observed and discharge of waste wash water drains to the adjacent storm drain

properly dispose of the contents. Use of the was rack should be discontinued or an oil/water separator should be installed to collect and treat the waste wash rack water. Drip pans should be provided for the vehicles stored at the site. Drum and tire storage should be eliminated or a storage area with secondary containment and cover should be installed. A spill kit and SPCCP should be provided to the facility and personnel trained in its use.

317C2 - Fenced Storage Yard - *Miranda's Landscaping*

This area consists of a yard for landscaping operations and equipment storage. Two diesel fuel tanks, approximately 250 gallons each, were located at the site with secondary containment. Vehicle and motorized equipment storage are located in unpaved areas. A small, uncovered bermed area was observed containing fuels and wash equipment. One wash rack is also present with the waste wash water directed toward a nearby storm water drainage ditch.

Recommended BMPs include discontinuing the use of the wash rack until installation of an oil/water separator can be performed. A spill kit and SPCCP should be installed at the diesel fuel tanks and personnel trained in their use. Vehicle and equipment stored at the site should be inspected for fuel and oil leaks and drip pans should be used as necessary.

317C3 - Fenced Storage Yard

Vehicle and motorized equipment is stored at this site in unpaved areas. A fertilizer/pesticide sprayer was stored on a pallet with no secondary containment or cover. Used tires were also stored at the site with no cover. The ground surface at the storage yard was partially covered with sawdust and wood chips.

Recommended BMPs include moving the fertilizer/pesticide sprayer to a bermed and covered location. Used tires stored at the site should either be removed or covered. Wood chips should be removed to eliminate storm water runoff from carrying this particulate matter into the storm drain system.

Building 318 - General Warehouse Navy - Supply

Industrial activity was limited to wood cutting. Potential pollutants included flammables, paints and sawdust. Automotive engines were being stored for possible future maintenance. Garbage dumpsters should be located away from the storm drain. The floors inside the building were dry swept once a week, but there was no SPCCP in place. A spill kit was present and the workers had spill cleanup training.

Building 320 - Hazardous/Flammable Materials Storehouse - Supply

A deep, large sump is located in the northwest corner of the materials storage room. A storm drain swale is located along the train dock. Empty drums and gas cylinders are stored in a separate room at the southeast corner of the building. An outdoor hazardous materials storage yard in located at the west end of the building. Two spill kits are located in this area. Cans and drums are stored on secondary containment pallets on a concrete pad and are located under a canopy. The outdoor storage area is not paved and is sloped toward a storm drain near the southwest corner of the surrounding fence. A low berm consisting of weathered sandbags is installed around the storm drain to prevent yard runoff from discharging into the drain.

Current BMPs involved weekly dry sweeping of the building and included spill cleanup training. A spill cleanup kit and a SPCCP were in place. Recommended BMPs include replacing the sand bag containment around the storm drain with a more permanent structure.

Building 322 - EM Mess Open - Vacant.

A dark, semi-liquid substance was observed to be discharging into the floor drain in the "Asst. Dining Facility Manager's" office. The storm drain area map indicates that this drains into the storm drain system. An empty above ground fuel tank was located outdoors at the south side of the building with no secondary containment. The exterior walls of the building were deteriorating which may be releasing asbestos from the stucco to the surrounding ground surface. This material could then be carried to a local storm drain.

This building was scheduled to be demolished. Recommended BMPs include removing the above ground fuel tank and sealing the floor drain to prevent discharge to the storm drain system. Routine inspection of the building should be performed so that unauthorized debris or containers are not stored in the building.

Building 357 - Hazardous /Flammable Storehouse - Installation

This facility consisted of a fenced enclosed, paved storage yard with a small, elevated shed. Drums were stored on pallets with no secondary containment or cover. A storm drain exists inside this small yard and any spills or leaks have the potential to either directly discharge or be carried by storm water run-off into the storm drain system. Materials stored at this facility included Entec 702 Anticorrosion liquid and Phosphoric Acid. Near Building 357, an oil/water separator (#357) was present which previously served floor drains, but the pipe from a drain to the oil/water separator was disconnected. It was not known whether the separator was being used; but

provided.

Building 359 - MTIS Building - Supply

This building was used for storage of aircraft parts. Two open floor drains were reportedly not in use (sealed). One "hot dip" degreasing tank, one additional tank had been removed, is located at the site but it was reported that this tank has not been used for 20+ years. A formed engine block cleaning area outdoors at the east end of building 359 has an open waste wash/storm drain. Potential pollutants included lacquer, desiccants and cleaners. There was a flammable storage area near Building 359 requiring secondary containment. Drums of corrosive cleaners were observed on site.

BMP recommendations are to distribute a SPCCP and install a spill kit. Personnel should be trained in spill response techniques. A concrete secondary containment berm is needed for proper storage of drums containing corrosive cleaners.

Building 360 - Storage MC Air/Ground Organic Unit - Supply

No industrial activity occurs at this facility however a hazardous materials storage area is located outside at the east end of the building. This storage is paved and is covered. Numerous drums are stored on either normal pallets or on secondary containment pallets, however, there is no additional containment. A central drain, which discharges to the storm drain system, is located inside the yard and is covered with disintegrating sand bags. Another storm drain is located near the south of this storage yard and is open. A limited spill kit consisting of a non-metallic shovel and absorbent is present at the site.

Recommended BMPs include installing a more equipped spill kit and training personnel in spill response techniques. A SPCCP should also be developed and placed at the site. Drum storage should be moved to areas with secondary containment and under canopies. The two existing storm drains should be covered during the dry season to prevent any accidental spills from discharging to the storm drain system. The sand bags presently in place should be removed and replaced with a more permanent structure for protection of the storm drains.

Building 369 - Servmart - Supply

Potential pollutants included soap, solvents, waste oils, recyclables, metals, wax removers, bleaches, lacquers, and paints. Hazardous materials are stored in a separate, bermed room. A storm drain located outdoors near

TABLE 6-1

MCAS EL TORO

STATIONWIDE SUMMARY OF BMPs

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
		SOMS Recovery HQ	SOMS		Existing	041	Wash Equipment and Vehicles at Designated Areas
					Rec	045	Perform Equipment Maintenance at Designated Areas
					Rec	018	Provide Roof to Cover Source Area
					Rec	042	Direct Wash Water to Sanitary Sewer
					Rec	065	Place Spill Kit in Area
308	08	GSE Storage	MALS-11	Concern	Rec	009	Personnel Training
					Rec	112	Prepare Appropriate Spill Prevention and Response Plans
					Rec	065	Place Spill Kit in Area
309	01	Group Headquarters	MWSG-37	Limited			No Additional BMPs are Recommended
310	02	MWSS-473	MWSS-473	Limited			No Additional BMPs Recommended
311	01	Fire Station #2	Station	Concern	Rec	098	Construct Oil/Water Separator
					Existing	041	Wash Equipment and Vehicles in Designated Areas
312	01	Photographic Building	Vacant	Limited			No Additional BMPs are Recommended
313	01	Field Maintenance Shop	CSSD-14	Previous			No Additional BMPs are Recommended
		Storage out of Stores	MWSS-373				
314	01	Highbay Storage	Supply	Concern	Rec	009	Personnel Training

TABLE 6-1

MCAS EL TORO

STATIONWIDE SUMMARY OF BMPs

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
349	08	Aircraft Beacon	Station/G-3	Limited			No Additional BMPs Recommended
353	08	A/C Ready Fuel Storage Tank Farm #4	Supply	Concern	Existing	009	Personnel Training
					Existing	112	Prepare Appropriate Spill Prevention and Response Plans
					Existing	023	Place Portable Rubber Mats over Storm Drain Inlets
					Existing	066	Eliminate Topping Off Tanks
					Existing	065	Place Spill Kit in Area
355	01	Snack Bar #12	MWR-Hosp	Limited			No Additional BMPs are Recommended
357	01	Haz/Flam Storehouse	Installation	Concern	Rec	112	Prepare Appropriate Spill Prevention and Response Plans
					Rec	110	Regularly Inspect and Maintain Storm Water Conveyance Systems
					Existing	041	Wash Equipment and Vehicles in Designated Areas
					Rec	065	Place Spill Kit in Area
358	21	Water Distribution Building	Installation	Limited			No Additional BMPs are Recommended
359	01	MTIS Building	Supply	Concern	Rec	009	Personnel Training
					Rec	112	Prepare Appropriate Spill Prevention and Response Plans
					Rec	012	Construct Berm or Dike Around Critical Areas
					Rec	065	Place Spill Kit in Area

TABLE 6-1

MCAS EL TORO

STATIONWIDE SUMMARY OF BMPs

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
					Rec	065	Place Spill Kit in Area
360	01	Storage MC Air/Ground Organic Unit	Supply	Concern	Rec	112	Prepare Appropriate Spill Prevention and Response Plans
					Rec	012	Construct Berm or Dike Around Critical Areas
					Rec	018	Provide Roof to Cover Source Area
					Rec	023	Place Portable Rubber Mats over Storm Drain Inlets
					Rec	065	Place Spill Kit in Area
360	02	Storage MC Air/Ground Organic Unit	Supply	Limited			No Additional BMPs Recommended
363	08	Misc. Pipeline POL Shelter	Supply	Limited			No Additional BMPs Recommended
364	27	Mess Hall #2	Food Service	Limited			No Additional BMPs Recommended
364	28	Mess Hall #2	Food Service	Concern	Rec	005	Provide Regular Sweeping of Floor/Lot
366	26	O2	Vacant	Limited			No Additional BMPs Recommended
367	26	Bachelor Enlisted Quarters	Station	Limited			No Additional BMPs Recommended
368	01	Installations	Installations	Limited			No Additional BMPs are Recommended
369	01	Servmart	Supply	Concern	Rec	009	Personnel Training

TABLE 7-1
MCAS EL TORO MATERIALS INVENTORY

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	TRADE/COMMON NAME	MAX. DAY	AVE. Day	CONT.
320	01	Hazardous/Flammable Storage	Supply	Concern	Lubricating Oil, aircraft	11487 qt	2500 qt	1 qt
320	01	Hazardous/Flammable Storage	Supply	Concern	Lubricating/Gear Oil 80/90W	55 gal	5 gal	5 gal
320	01	Hazardous/Flammable Storage	Supply	Concern	Nitrogen	1288 cf	364 cf	187 cf
320	01	Hazardous/Flammable Storage	Supply	Concern	Sodium Hypochlorite	58 gal	5 gal	1 gal
322	01	EM Mess Open	Vacant	Concern	N/A			
324	02	Comm/MT/Const/ TAFDS	MWSS-374	Concern	N/A			
325	02	Haz/Flam Storehouse	FREST	Concern	N/A			
353	08	A/C Ready Fuel Storage Tank Farm #4	Supply	Concern	Aviation Gasoline	N/A	N/A	N/A
357	01	Haz/Flam Storehouse	Installation	Concern	Anticorrosion Liquid	N/A	N/A	55 gal
357	01	Haz/Flam Storehouse	Installation	Concern	Entec 702	N/A	N/A	55 gal
357	01	Haz/Flam Storehouse	Installation	Concern	Phosphoric Acid	N/A	N/A	55 gal
359	01	MTIS Building	Supply	Concern	Corrosive Cleaner	N/A	N/A	55 gal
359	01	MTIS Building	Supply	Concern	Desiccants	N/A	N/A	N/A

TABLE 7-1
MCAS EL TORO MATERIALS INVENTORY

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	TRADE/COMMON NAME	MAX. DAY	AVE. Day	CONT.
359	01	MTIS Building	Supply	Concern	Lacquer	N/A	N/A	N/A
360	02	Storage MC Air/Ground Organic Unit	Supply Outside storage	Limited	Antifreeze	990 gal	450 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Antifreeze	220 gal	165 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Antifreeze, arctic	825 gal	110 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Cleaning Compound solvent	165 gal	75 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Helicopter Transmission Fluid	275 gal	55 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Hydraulic Fluid, fire resistant	2680 gal	220 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Hydraulic Fluid, fire resistant	2640 gal	110 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Isopropyl Alcohol	110 gal	55 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Lubricating Oil	535 gal	110 gal	55 gal
360	01	Storage MC Air/Ground Organic Unit	Supply Outside storage	Concern	Lubricating Oil, aircraft	110 gal	55 gal	55 gal

Final

Marine Corps Air Station El Toro Hazardous Material/Hazardous Waste Management Plan

August 1994

EXTRACTS

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

Prepared for:

Southwest Division Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

Prepared by:

Science Applications International Corporation
Engineering Sciences Division
10260 Campus Point Drive
San Diego, CA 92121

Contract No. N68711-92-D-4658
Delivery Order No. 0004

EXTRACTS

▲ HAZARDOUS MATERIALS STORAGE

● HAZARDOUS WASTE ACCUMULATION POINT

■ ONE YEAR PERMITTED HAZARDOUS WASTE STORAGE AREA

MCAS El Toro
Santa Ana, California

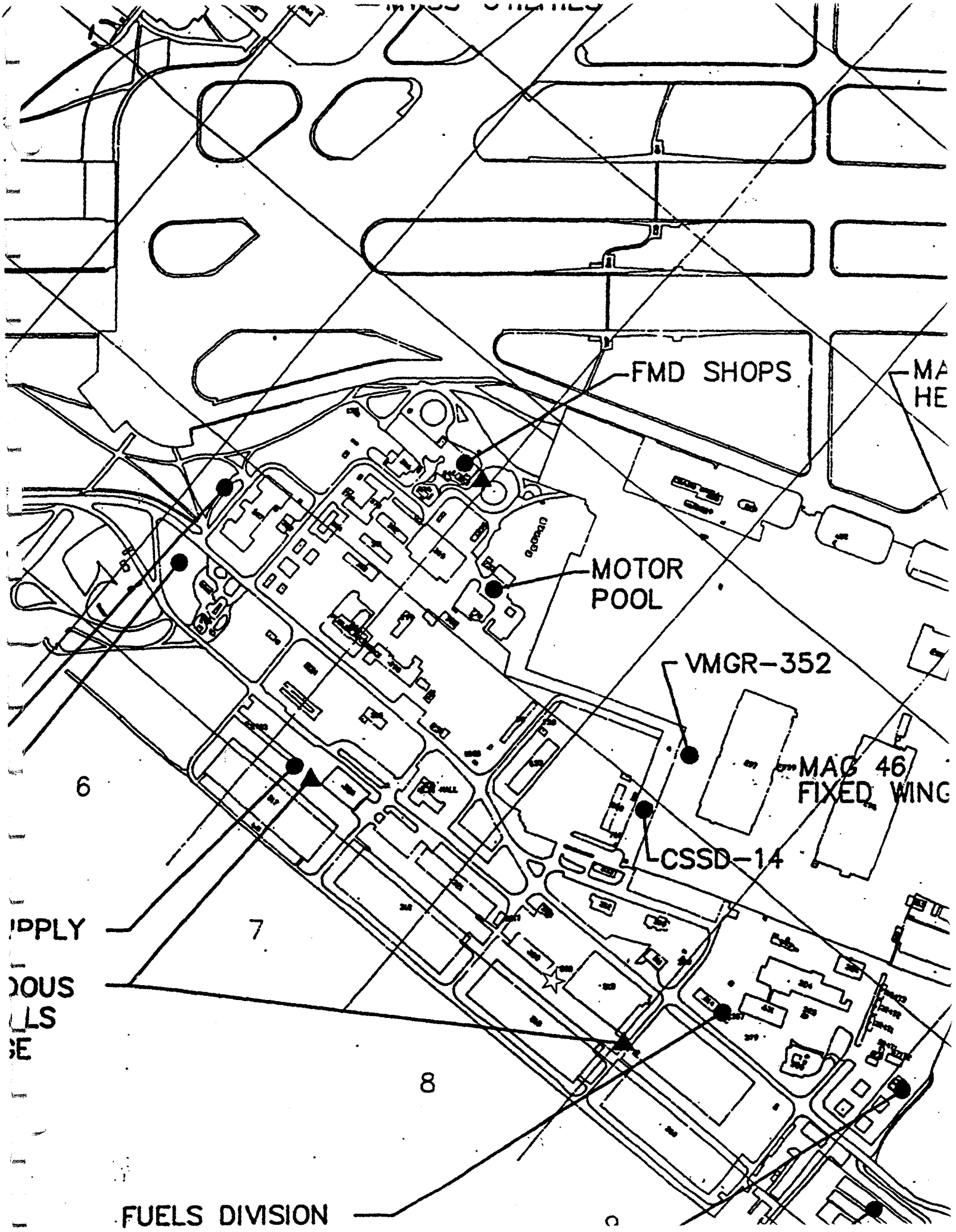
HAZARDOUS WASTE ACCUMULATION POINTS AND HAZARDOUS MATERIAL STORAGE LOCATIONS

NOVEMBER 5, 1993

500' 250' 0 500' 1000'

1" = 500'

Science Applications International Corporation
An Employee-Owned Company


FMD SHOPS
MOTOR POOL
VMGR-352
MAG 46 FIXED WING
CSSD-14
6
7
8
FUELS DIVISION

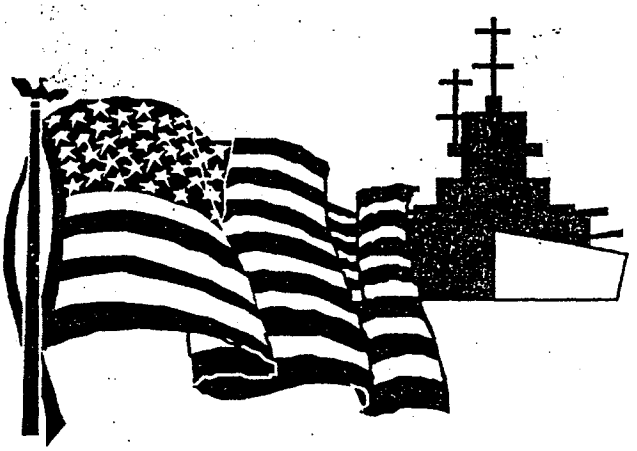
NOTE: BUILDINGS 313 AND 359 ARE NOT IDENTIFIED AS HAZARDOUS WASTE STORAGE AREAS IN THE HM/HWMP.

Hazardous Waste Accumulation Point Summary		
Unit	Bldg #	Coordinates
Aero Club	10	R5
Armory	744	O2
Auto Hobby Shop	626	M3
CSSD-14	388	U8
Environmental Above Ground Storage Tank	n/a	U6
FMD Shops, Bldg 1601	370	T6
Fuels Division	314	U9
H&HS 38	22	R4
MACG-38 MWCS 38	HGR 5	R4
MAG-46	51	Q4
MAG-46 Fixed Wing	296	T9
MAG-46 Helo Mals-46	295	S8
MALS-11 Air Frames	130	M9
MALS-11 Avionics	856	Q12
MALS-11 Cryogenics (ALSS)	636	R12
MALS-11 GSE North	392	M9
MALS-11 Ordinance	673	P12
MALS-11 Power Plant	658	N10
MALS-11 Power Plant	634	N9
MALS-11 Supply	441	P12
Maytag Aircraft Corp	779	N10
MOD Team	115	N9
Motor Pool (G-4), Bldg 770	386	T7
MWHS-3	7	Q5
MWR Auto #1	651	O2
MWR Golf Course	390	P13
MWSS-Utilities	31	S4
MWSS-373 HQ	800	U10
MWSS-373 Refuelers	671	U9
SOMS HQ	289	N5
SOMS Maintenance	HGR 2	O4
SOMS Recovery		
Supply	320	U7
VMFA (AW)-121	462	R11
VMFA (AW) 225	698	N9
VMFA (AW)-242	461	R11
VMFAT-101	371	Q10
VMFA-323	606	N8
VMGR-352	297	T8
VFMA-314	605	N7

Bechtel National, Inc.

EXTRACTS

NAVY
CLEAN II
PROGRAM



DRAFT FINAL PHASE II REMEDIAL INVESTIGATION REPORT OPERABLE UNIT 2A – SITE 24 MARINE CORPS AIR STATION EL TORO, CALIFORNIA Volume II Appendices A–I

CTO-0073/0146

Submitted to:

Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

The two 500-gallon tanks, referred to as "buffaloes," were aboveground storage tanks mounted on wheels so that they could be moved around the shop area. One tank was kept on the north side, and one was kept on the west side of Building 1589. The tanks stored waste oil generated from vehicle maintenance at the shop (e.g., oil changes, engine overhauls). According to an interviewed worker, an outside contractor periodically pumped the waste oil from the tanks and transported it off the Station for recycling (Jacobs Engineering 1993c). The tanks were always stored on a paved surface. No spills, other than minor drippings onto the concrete surface, have been reported at the shop.

A degreaser pit was formerly located in the eastern portion of former Building 1589. This area served as a machine shop; the location of the degreaser pit was not identified. However, floor stains observed during the site visit suggest that the degreaser may have been located along the northern wall of the machine shop (Jacobs Engineering 1993c).

The RFA identified three SWMU/AOCs for Building 386. A vehicle wash rack is located adjacent to the northeast side of the building. A surface drain in the center of the wash rack lead to an oil/water separator (labeled Tank 386-B in the RFA). There is also a waste oil UST (386-C). Each of these items is discussed below.

The vehicle wash rack consists of a 3,200-square-foot concrete wash surface surrounded by a 4-inch concrete berm. It is listed as SWMU/AOC 110 in the RFA. The wash rack is currently inactive, but was formerly used for washing vehicles and equipment. A 500-gallon aboveground waste oil tank is stored on the wash rack. During the visual site inspection (VSI), the wash rack surface was observed to be cracked and darkly stained (Jacobs Engineering 1993c).

A surface drain collects runoff from the vehicle wash rack and conveys it to an oil/water separator (Tank 386-B, SWMU/AOC 112). Oil from this tank is discharged to a waste oil UST (Tank 386-C, SWMU/AOC 113).

3.1.2.3 BUILDING 299

Building 299 is located south of former Building 1589. It formerly contained a waterwall-curtain paint booth that was situated at the north side of the building on a concrete paved area. The booth was a complete unit provided by an outside contractor. No additional details about the booth were available.

3.1.2.4 BUILDING 359

Building 359 (Preservation Building) was constructed in 1952. The building contained a TCE vapor degreaser pit and four cold-dip tanks with unknown contents. A sump, located on the south side of the building, discharged wastewater to industrial sewer lines. The duration of discharges from Building 359 to the industrial lines is not known. The TCE vapor degreaser was investigated in the RFA as SWMU/AOC 100.

Appendix D Part I, CPT Logs for Site 24

Table D1
Summary of CPT Soundings, Site 24

Location	Date	Maximum Depth (feet)
24CPT-1	8/30/95	120.08
24CPT-2	9/19/95	120.08
24CPT-B2	9/13/95	120.08
24CPT-3	9/13/95	120.08
24CPT-4	9/19/95	120.08
24CPT-5	9/19/95	120.08
24CPT-6	9/19/95	120.08
24CPT-7	9/08/95	112.86
24CPT-8	8/30/95	120.08
24CPT-9	9/19/95	120.08
24CPT-10	9/19/95	120.24
24CPT-11	9/08/95	115.16
24CPT-12	9/12/95	50.36
24CPT-13	9/08/95	98.42
24CPT-14	8/24/95	52.66
24CPT-15	9/12/95	120.08
24CPT-16	9/12/95	119.42
24CPT-17	8/30/95	130.08
24CPT-18	9/08/95	115.32
24CPT-19	9/20/95	110.07
24CPT-20	9/20/95	110.07
24CPT-21	9/07/95	91.37
24CPT-22	9/13/95	120.08
24CPT-23	9/01/95	120.24
24CPT-25	9/01/95	120.24
24CPT-26	9/12/95	120.08
24CPT-27	9/01/95	120.24
24CPT-28	9/13/95	120.08
24CPT-30	9/05/95	130.51
24CPT-31	8/23/95	130.08
24CPT-32	9/18/95	120.08
24CPT-33	9/18/95	110.23
24CPT-34	8/23/95	130.08
24CPT-35	9/20/95	108.43
24CPT-36	8/24/95	130.08

(table continues)

Table 4-6
Analytical Results for Soil Gas Samples
Sites 24 and 25
(micrograms per liter)

Sample Location	Probe Depth (feet)	Sample Number	Sample Date	TCE[a]	PCE[b]	C-1,2-DCE[c]	1,1-DCE	F-113	CTC[d]	CFM[e]	1,2-DCA[f]	1,1-DCA	1,1,2-TCA[g]	Benzene	Toluene	Ethyl-benzene	M+p-XYL[h]	O-XYL	TVH[i]
Site 24																			
24SG1	56	73W2067	08/31/95	243	3	ND < 1	ND < 1	1	ND < 1	ND < 1	ND < 1	ND < 1	2	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA[k]
24SG1	56	73W2068	08/31/95	190	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG1	74	73W2069	08/31/95	204	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG1	84	73W2070	08/31/95	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG1	84	73W2071	08/31/95	2	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG2	49	73W2207	09/21/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG2	85	73W2208	09/21/95	97	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG2	85	73W2209	09/21/95	103	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	NA
24SG3	48	73W2215	09/22/95	19	ND < 1	ND < 1	7	4	7	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG3	81	73W2216	09/22/95	42	ND < 5	ND < 5	7	ND < 5	7	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	NA
24SG3	85	73W2217	09/22/95	3	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG4	69	73W2195	09/19/95	374	ND < 40	ND < 40	ND < 40	200	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG4	78	73W2198	09/20/95	366	ND < 40	ND < 40	ND < 40	256	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG5	44	73W2199	09/20/95	ND < 1	ND < 1	ND < 1	ND < 1	2	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	30	18	25	21	28	6180
24SG5	44	73W2200	09/20/95	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	40	26	35	60	45	NA
24SG5	89	73W2201	09/20/95	ND < 1	ND < 1	ND < 1	ND < 1	1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	55
24SG6	53	73W2204	09/21/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG6	76	73W2205	09/21/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG6	91	73W2206	09/21/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG7	45	73W2184	09/19/95	ND < 1	13	ND < 1	ND < 1	27	9	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG7	45	73W2185	09/19/95	ND < 5	11	ND < 5	ND < 5	31	9	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	NA
24SG7	85	73W2186	09/19/95	ND < 10	ND < 10	ND < 10	ND < 10	21	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	NA
24SG7	85	73W2187	09/19/95	1	10	ND < 1	ND < 1	22	7	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG7	95	73W2189	09/19/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG7	109	73W2188	09/19/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG8	42	73W2190	09/19/95	1	ND < 1	ND < 1	ND < 1	332	1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG8	42	73W2191	09/19/95	ND < 40	ND < 40	ND < 40	ND < 40	527	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG8	74	73W2192	09/19/95	ND < 40	ND < 40	ND < 40	ND < 40	2150	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	ND < 40	NA
24SG8	74	73W2193	09/19/95	ND < 200	ND < 200	ND < 200	ND < 200	1680	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	NA
24SG8	92	73W2194	09/19/95	ND < 200	ND < 200	ND < 200	ND < 200	1480	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	ND < 200	NA
24SG9	49	73W2210	09/21/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG9	50	73W2212	09/22/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG9	84	73W2213	09/22/95	3	ND < 1	ND < 1	ND < 1	63	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG9	84	73W2214	09/22/95	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	ND < 20	NA
24SG10	53	73W2226	09/25/95	11	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG10	75	73W2227	09/25/95	22	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG10	94	73W2228	09/25/95	19	ND < 1	ND < 1	1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG11	50	73W2135	09/11/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG11	89	73W2136	09/11/95	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG11	102	73W2137	09/11/95	28	ND < 1	ND < 1	8	27	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG11	102	73W2138	09/11/95	37	ND < 10	ND < 10	12	54	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	NA
24SG12	48	73W2167	09/15/95	2	ND < 1	ND < 1	ND < 1	6	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG13	43	73W2147	09/14/95	509	4	1	21	317	4	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	ND < 1	NA
24SG13	43	73W2148	09/14/95	344	ND < 160	ND < 160	ND < 160	541	ND < 160	ND < 160	ND < 160	ND < 160	ND < 160	ND < 160	ND < 160	ND < 160	ND < 160	ND < 160	NA
24SG13	54	73W2149	09/14/95	785	ND < 80	ND < 80	ND < 80	751	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	NA
24SG13	98	73W2150	09/14/95	2310	ND < 80	ND < 80	ND < 80	1880	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	ND < 80	NA

(table continues)

SOUTHWESTNAVFACENGCOM
CODE 06CC.LMH
SAN DIEGO, CA 92101

No Further Action Decision Documents and Other Documentation for Selected Nearby Environmental Locations of Concern

COUNTY OF ORANGE
HEALTH CARE AGENCY

PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

TOM URAM
DIRECTOR

HUGH F. STALLWORTH, M.D.
HEALTH OFFICER

ROBERT E. MERRYMAN, REHS, MPH
DEPUTY DIRECTOR

MAILING ADDRESS
2009 EAST EDINGER AVENUE
SANTA ANA, CA 92705-4720

TELEPHONE: (714) 667-3600
FAX: (714) 972-0749

December 9, 1996

LT. Hope Katcharian
Director, Environmental Engineering Division
Commanding General
AC/S Environmental IAU
Marine Corps Air Station El Toro
P.O. Box 95001
Santa Ana, CA 92709-5001

Subject: Completion of Tank Removal Project

RE: Marine Corps Air Station El Toro
Tank #359C
Santa Ana, CA 92709

Dear Lt. Katcharian:

This is in response to your request for a confirmation of the completion of the tank removal project. With the provision that the results for the soil samples obtained during the soil sampling activities on August 5, 1993, were accurate and representative of existing conditions, it is the position of this office that no significant soil contamination has occurred at the above noted tank location.

It should be pointed out that this letter does not relieve you of any responsibilities mandated under the California Health and Safety Code if additional or previously unidentified contamination is discovered at the subject site.

If you have any questions regarding this matter, please contact Arghavan Rashidi-Fard at (714) 667-3713.

Sincerely,

William J. Diekmann, M.S., REHS
Supervising Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health Division

cc: Larry Vitale, Santa Ana Regional Water Quality Control Board

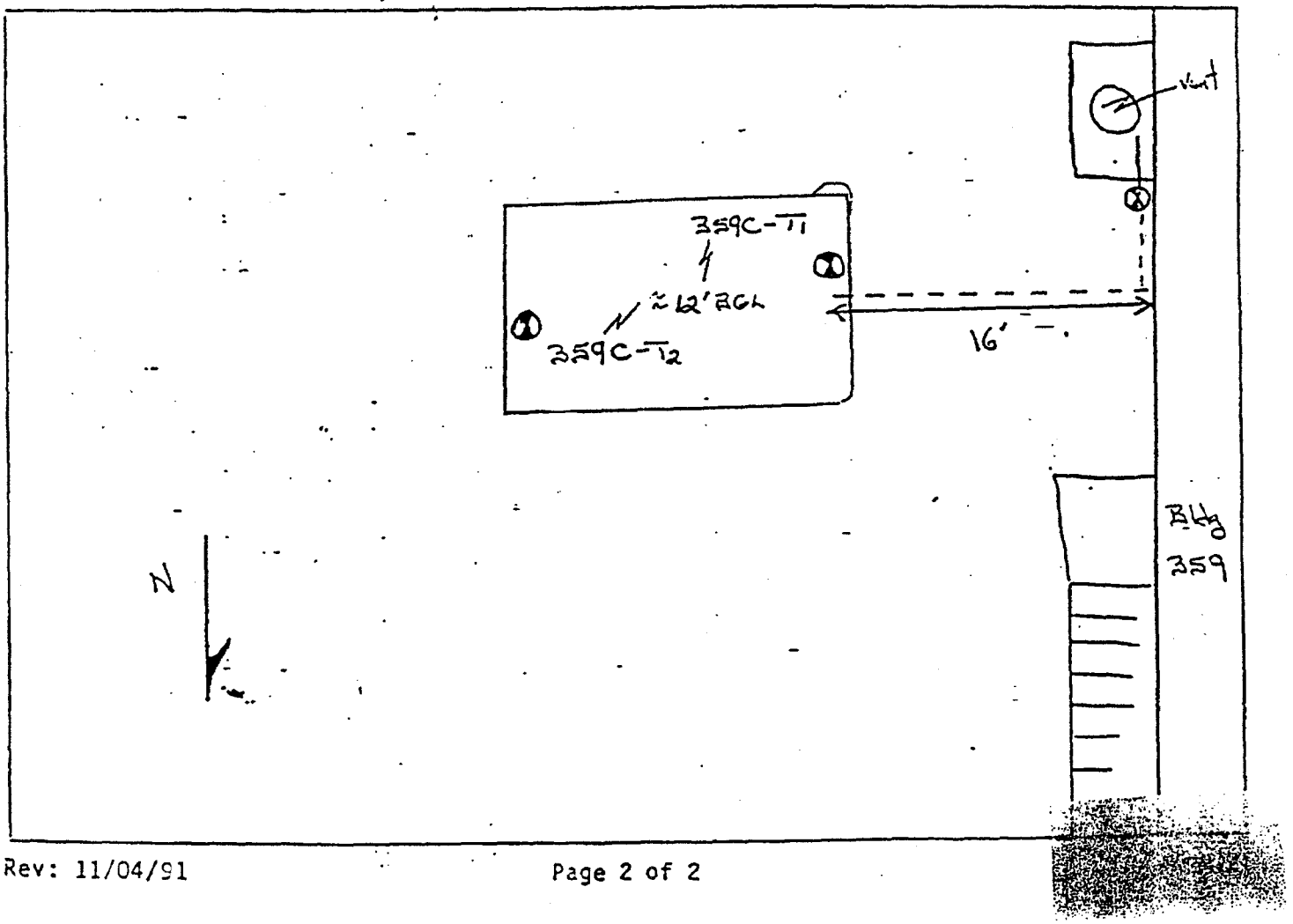
FIELD ACTIVITY DESCRIPTION

Facility Name: MCAS - El Toro Address: Bldg # 359C

PC # 92-283 TI # _____ LUST # _____ IR # _____

Inspector: RHendron Date: 8-5-93 Time: _____

Field Activity: Removal of 500 gallon SW Fiberglass Tank w/ Single Wall Copper Pipes (Suction and/or Gravity)
- Tank & Piping appeared intact
- No Visual or Odor's from Contamination noted.
- Backfill again was all Pea Gravel.



Department of Toxic Substances Control

Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

Vinston H. Hickox
ecretary for
Environmental
Protection

Gray Davis
Governor

May 24, 1999

Mr. Joseph Joyce
BRAC Environmental Coordinator
U.S. Marine Corps Air Station - El Toro
AC/S, Environmental (1AU), BRAC Building #899
P. O. Box 95001
Santa Ana, California 92709-5001

Dear Mr. Joyce:

TECHNICAL MEMORANDUM FOR TEMPORARY ACCUMULATION AREA (TAA) 359A, MARINE CORPS AIR STATION (MCAS) El TORO

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated January 6, 1999 and received by us on May 6, 1999. The Technical Memorandum provides supporting documentation for the deletion of TAA 359A from the Base Realignment and Closure Cleanup Plan (BCP) update for MCAS El Toro. TAA 359A was incorrectly identified during the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) as Solid Waste Management Unit (SWMU) number 254. The information provided includes historical records and current environmental program management plans and reports, and a visual site inspection report in support of the determination that the site does not exist and was incorrectly designated as Environmental Locations of Concern (LOC).

DTSC concurs with your determination that TAA 359A was incorrectly designated as LOC and accordingly can be deleted from the BCP update. If you have any questions, please contact me at (714) 484-5418.

Sincerely,

Tayseer Mahmoud
Remedial Project Manager
Office of Military Facilities
Southern California Operations

cc: See next page

cc: Mr. Glenn Kistner, SFD-8-2
Remedial Project Manager
U. S. Environmental Protection Agency
Region IX, Superfund Division
75 Hawthorne Street
San Francisco, California 94105-3901

Ms. Patricia Hannon
Remedial Project Manager
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

Mr. Gregory F. Hurley
Restoration Advisory Board Co-chair
620 Newport Center Drive, Suite 450
Newport Beach, California 92660-8019

Ms. Polin Modanlou
MCAS El Toro Local Redevelopment Authority
10 Civic Center Plaza, 2nd Floor
Santa Ana, California 92703

Ms. Lynn Hornecker
Remedial Project Manager
Naval Facilities Engineering Command
Southwest Division - Code 5BME.LH
1220 Pacific Highway
San Diego, California 92132-5187

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Santa Ana Region

Internet Address: http://www.swrcb.ca.gov/~rwqcb8
3737 Main Street, Suite 500, Riverside, California 92501-3339
Phone (909) 782-4130 FAX (909) 781-6288

Gray Davis
Governor

November 3, 1999

Mr. Dean Gould
BRAC Environmental Coordinator
Mail Code 05BM
Naval Facility Engineering Command, SWDIV
1220 Pacific Highway
San Diego, CA 92132-5190

REPORTS ON PHANTOM SITES: OWS-244, OWS-388C, OWS-602, OWS-606C, OWS-652, SWMU-8, TAA-359A AT MARINE CORPS AIR STATION, EL TORO

Dear Mr. Gould:

We have completed our review of the reports on the following seven phantom sites:

Phantom Site	Report date
Oil water separator (OWS) 244	July 7, 1998
Oil water separator (OWS) 388C	August, 10, 1998
Oil water separator (OWS) 652	July 27, 1998
Oil water separator (OWS) 602	March 7, 1999
Oil water separator (OWS) 606C	June 4, 1999
Solid Waste Management Unit (SWMU) 8	April 26, 1999
Temporary Accumulation Area (TAA) 359A	January 6, 1999

According to the reports on the above referenced sites, evidence could not be found to confirm the existence of the seven sites.

Provided that the information submitted in these reports for the above referenced sites is true and correct, we concur with the Navy's request to remove these sites from the Base Realignment and Closure Cleanup Plan (BCP).

If you should have any questions, please call me at (909) 782-4498.

Sincerely,

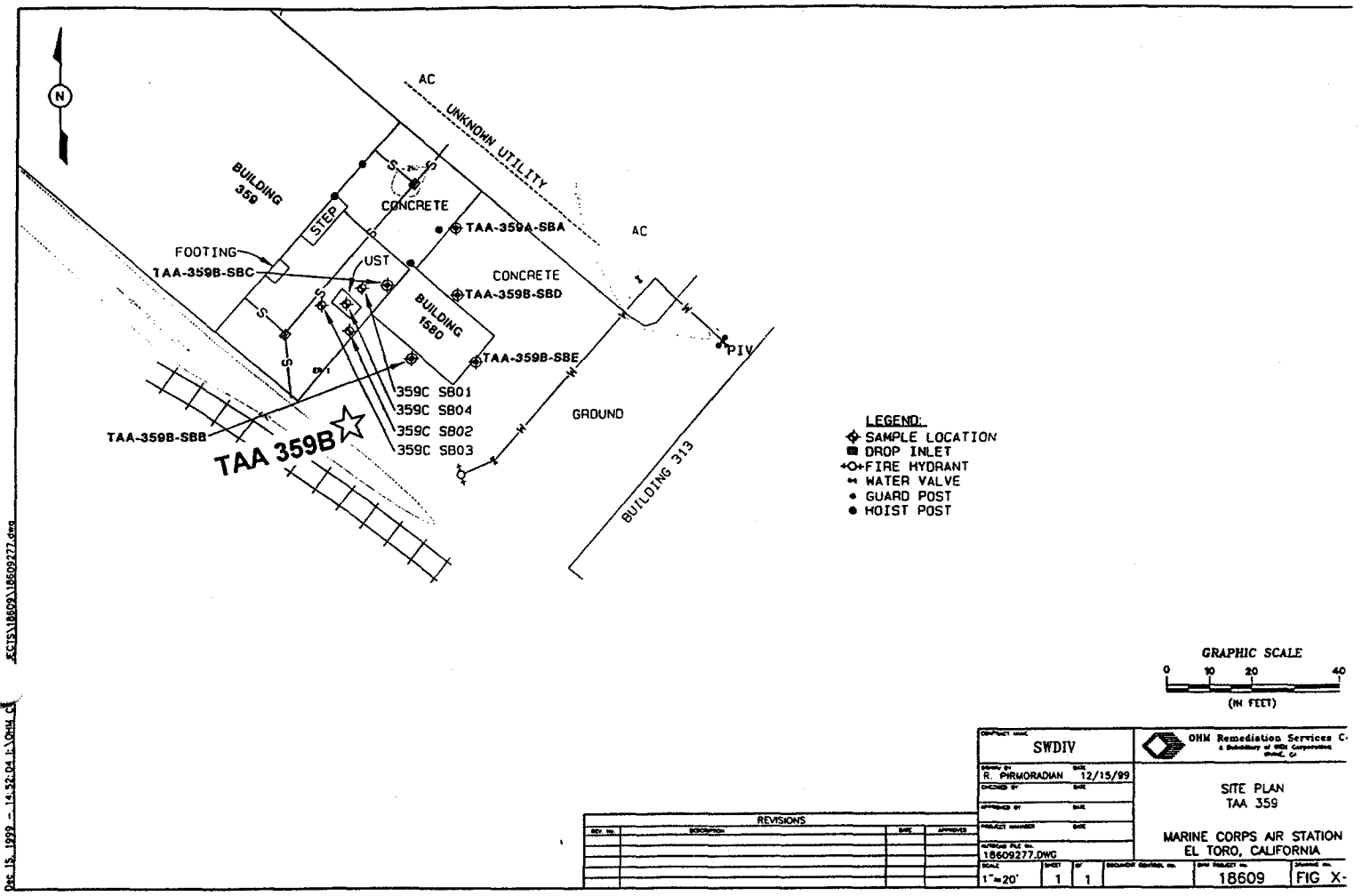
Patricia A. Hannon

Patricia A. Hannon
DoD Section

cc: Dept. of Toxic Substances Control - Alice Gimeno
Naval Facility Engineering Command, SWDIV - Lynn Hornecker
U. S. EPA, Region IX - Glenn Kistner
Kutak Rock, Attorneys - Gregory F. Hurley
Orange County Hall of Administration - Polin Modanlou

SOUTHWESTNAVFACENGCOM
CODE 06CC.LMH
SAN DIEGO, CA 92101

Field and Laboratory Data (OHM, 1996-1999)



Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

☆ Sample 18609-721 from boring TAA 359B SBB was used in the screening risk calculations due to the proximity of SBB to the location of TAA 359B/SWMU 99 as defined in the RFA Report (JEG, 1993).

OHM Remediation Services Corp
Subsidiary of OHM Corporation
U.S. Route 224 East • Findlay, Ohio 45840 • (419) 423-3526

0075

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

212071

FORM 0019 REV. 2-97

LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
...yne Ishida	(714) 263-1146	(714) 263-1147	97-10-430		
PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY PHONE	LABORATORY FAX	RECIPIENT NAME
...A 359A+B	EL TORO MCAS	18609			
PROJECT CONTACT	PROJECT PHONE NUMBER	PROJECT FAX	LABORATORY ADDRESS		ADDRESS
Ishida	263-1146	263-1147			
PROJECT ADDRESS	CITY, STATE AND ZIPCODE	CLIENT	CITY, STATE AND ZIPCODE		CITY, STATE AND ZIPCODE
...1 Main st.	Irvine, CA.	SWDiv			
PROJECT MANAGER	PROJECT MANAGER'S PHONE	PROJECT MANAGER'S FAX			
...ll Sedlak	263-1146	263-1147			

Analyses: TPH-Purgeable; TPH-Extractable; PAH/SVOC-8270; VOC-8260; metals-6010/7000s; Total Cyanide-9010; pH-9045; Pest/PCBs-8081

VOC

Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T.	TPH-Purgeable	TPH-Extractable	PAH/SVOC-8270	VOC-8260	Metals-6010/7000s	Total Cyanide-9010	pH-9045	Pest/PCBs-8081	Comments
18609-719	S	10/21/97	0931	—	1	C	5DAY	X	X	X	X	X	X	X	X	Sample FROM X ON Cap
18609-720	↓	↓	0939	↓	1	↓	↓				X					
18609-721 ★			1005		1			X	X	X	X	X	X	X	X	
18609-722			1011		1						X					MS/MSD
18609-723			1016		1			X	X	X	X	X	X	X	X	
18609-724			1021		1						X					
18609-725			0943		1			X	X	X	X	X	X	X	X	
18609-726			0948		1						X					
18609-727			0954		1			X	X	X	X	X	X	X	X	
18609-728	S	10/21/97	1000	—	1	C	5DAY				X					

SAMPLES COLLECTED BY: MB

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
[signature]	[signature] VOC	10/22/97	1420	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Project Information Section
For Project Personnel Only
Do Not Submit to Laboratory

Sample Point Location	G	C	F	QC
1. TAA 359ASBA-1.5'	X			
2. TAA 359ASBA-3'	X			
3. TAA 359BSBB-1.5'	X			
4. B-3'	X			X
5. C-1.5'	X			
6. C-3'	X			
7. D-1.5'	X			
8. D-3'	X			
9. E-1.5'	X			
10. TAA 359BSBE-3'	X			

Comments
TAA 359

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

[redacted]

OHM Remediation Services Corp
Subsidiary of OHM Corporation
U.S. Route 224 East • Findlay, Ohio 45840 • (419) 423-3526

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

212072

FORM 0019 REV. 2-97

OHM's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
DWAYNE ISHIDA	(714) 263-1146	(714) 263-1147	97-10-430		
PROJECT NAME	**PROJECT LOCATION**	**PROJECT NUMBER**	**LABORATORY PHONE**	**LABORATORY FAX**	**RECIPIENT NAME**
TAA 359A+B	EL TORO MCAS	18009			
PROJECT CONTACT	**PROJECT PHONE NUMBER**	**PROJECT FAX**	**LABORATORY ADDRESS**		**ADDRESS**
D. ISHIDA	263-1146	263-1147			
PROJECT ADDRESS	**CITY, STATE AND ZIPCODE**	**CLIENT**	**CITY, STATE AND ZIPCODE**		**CITY, STATE AND ZIPCODE**
2031 MAIN ST.	IRVINE, CA.	SWDIV			
PROJECT MANAGER	**PROJECT MANAGER'S PHONE**	**PROJECT MANAGER'S FAX**			
BILL SEDLAK	263-1146	263-1147			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T	Analyses: TPH Purgeable	TPH- Extractable	PAH's/SVOC - 8270	VOC - 8260	Metals - 6010/7000s	Total Cyanide - 9010	PH - 9045	Pest/PCBs - 8081	Comments
1	18009-729	W	10/21/97	0715	HCL	2	C	5 DAY	X			X					VOC
2	18009-730	W	10/21/97	1045	HCL HNO3 H2SO4	10	C	5 DAY	X	X	X	X	X	X	X	X	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

VOC 10/21/97

SAMPLES COLLECTED BY: [redacted]

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Martin Bamma	VOC	10/24/97	1130	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Project Information Section
For Project Personnel Only
Do Not Submit to Laboratory

Sample Point Location	Sample Type G	C	F	QC
1. Trip Blank	X			X
2. Rinsate	X			X

Comments

Sample Type: G - Grab, C - Composite, F - Field Sampl
QC - Quality Control Sample

[redacted]

001296

* TAA3598 SBB
18609-721

SAMPLE NO: 9710430*17

Received: 10.22.97

Ms. Mary Schneider
OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE	DATE SAMPLED
9710430*17 18609-~~722~~ 721	10.21.97

(Following results reported on the basis of 8.4% moisture)

Volatiles

PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
1,1,1-Trichloroethane	8260A		10.29.97	1	ug/kg	5.5	U
1,1,2,2-Tetrachloroethane	8260A		10.29.97	1	ug/kg	5.5	U
1,1,2-Trichloroethane	8260A		10.29.97	1	ug/kg	5.5	U
1,1-Dichloroethane	8260A		10.29.97	1	ug/kg	5.5	U
1,1-Dichloroethene	8260A		10.29.97	1	ug/kg	5.5	U
1,2-Dichloroethane	8260A		10.29.97	1	ug/kg	5.5	U
1,2-Dichloropropane	8260A		10.29.97	1	ug/kg	5.5	U
2-Chloroethylvinylether	8260A		10.29.97	1	ug/kg	55	U
2-Hexanone	8260A		10.29.97	1	ug/kg	55	U
Acetone	8260A		10.29.97	1	ug/kg	55	U
Bromodichloromethane	8260A		10.29.97	1	ug/kg	5.5	U
Bromomethane	8260A		10.29.97	1	ug/kg	5.5	U
Benzene	8260A		10.29.97	1	ug/kg	5.5	U
Bromoform	8260A		10.29.97	1	ug/kg	5.5	U
Chlorobenzene	8260A		10.29.97	1	ug/kg	5.5	U
Carbon Tetrachloride	8260A		10.29.97	1	ug/kg	5.5	U
Chloroethane	8260A		10.29.97	1	ug/kg	5.5	U
Chloroform	8260A		10.29.97	1	ug/kg	5.5	U
Chloromethane	8260A		10.29.97	1	ug/kg	5.5	U
Carbon Disulfide	8260A		10.29.97	1	ug/kg	5.5	U
Dibromochloromethane	8260A		10.29.97	1	ug/kg	5.5	U
Ethylbenzene	8260A		10.29.97	1	ug/kg	5.5	U
Methyl ethyl ketone	8260A		10.29.97	1	ug/kg	55	U
Methyl isobutyl ketone	8260A		10.29.97	1	ug/kg	55	U

001297

SAMPLE NO: 9710430*17

Received: 10.22.97

Ms. Mary Schneider
OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*17	18609-222 J2\						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 8.4% moisture)							
Volatiles							
Methyl-tert-butylether	8260A		10.29.97	1	ug/kg	11	U
Methylene chloride	8260A		10.29.97	1	ug/kg	5.5	U
Styrene	8260A		10.29.97	1	ug/kg	5.5	U
Trichloroethene	8260A		10.29.97	1	ug/kg	5.5	U
Toluene	8260A		10.29.97	1	ug/kg	5.5	U
Tetrachloroethene	8260A		10.29.97	1	ug/kg	5.5	U
Vinyl acetate	8260A		10.29.97	1	ug/kg	11	U
Vinyl chloride	8260A		10.29.97	1	ug/kg	5.5	U
Total Xylene Isomers	8260A		10.29.97	1	ug/kg	16	U
cis-1,2-Dichloroethene	8260A		10.29.97	1	ug/kg	5.5	U
cis-1,3-Dichloropropene	8260A		10.29.97	1	ug/kg	5.5	U
trans-1,2-Dichloroethene	8260A		10.29.97	1	ug/kg	5.5	U
trans-1,3-Dichloropropene	8260A		10.29.97	1	ug/kg	5.5	U
Surrogates **							
1,2-Dichloroethane-d4 Rep.	8260A		10.29.97	1	Percent	70	
4-Bromofluorobenzene Rep.	8260A		10.29.97	1	Percent	101	
Toluene-d8 Reported	8260A		10.29.97	1	Percent	100	
Dibromofluoromethane Rep.	8260A		10.29.97	1	Percent	85	

SAMPLE NO: 9710430*7

Received: 10.22.97

Ms. Mary Schneider
OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE								DATE SAMPLED
9710430*7	18609-721							10.21.97
PARAMETER		METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)								
Semi-volatiles								
1,2,4-Trichlorobenzene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
1,2-Dichlorobenzene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
1,3-Dichlorobenzene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
1,4-Dichlorobenzene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2,4,5-Trichlorophenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2,4,6-Trichlorophenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2,4-Dichlorophenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2,4-Dimethylphenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2,4-Dinitrophenol		8270B	10.23.97	10.28.97	1	ug/kg	920	U
2,4-Dinitrotoluene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2,6-Dinitrotoluene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2-Chloronaphthalene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2-Chlorophenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2-Methyl-4,6-dinitrophenol		8270B	10.23.97	10.28.97	1	ug/kg	920	U
2-Methylnaphthalene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2-Methylphenol (o-Cresol)		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2-Nitroaniline		8270B	10.23.97	10.28.97	1	ug/kg	370	U
2-Nitrophenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
3,3'-Dichlorobenzidine		8270B	10.23.97	10.28.97	1	ug/kg	370	U
3-Nitroaniline		8270B	10.23.97	10.28.97	1	ug/kg	370	U
4-Bromophenylphenylether		8270B	10.23.97	10.28.97	1	ug/kg	370	U
4-Chloro-3-methylphenol		8270B	10.23.97	10.28.97	1	ug/kg	370	U
4-Chloroaniline		8270B	10.23.97	10.28.97	1	ug/kg	370	U
4-Chlorophenylphenylether		8270B	10.23.97	10.28.97	1	ug/kg	370	U

SAMPLE NO: 9710430*7

Received: 10.22.97

Ms. Mary Schneider
OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE								DATE SAMPLED
9710430*7	18609-721							10.21.97
PARAMETER		METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)								
Semi-volatiles								
4-Methylphenol (p-Cresol)		8270B	10.23.97	10.28.97	1	ug/kg	370	U
4-Nitroaniline		8270B	10.23.97	10.28.97	1	ug/kg	370	U
4-Nitrophenol		8270B	10.23.97	10.28.97	1	ug/kg	920	U
Acenaphthene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Acenaphthylene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Anthracene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Benzo(a)anthracene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Benzo(b)fluoranthene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Benzo(g,h,i)perylene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Benzo(k)fluoranthene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Butylbenzylphthalate		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Chrysene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Di-n-octylphthalate		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Dibenzofuran		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Dibutylphthalate		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Diethylphthalate		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Dimethylphthalate		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Fluoranthene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Fluorene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Hexachlorobenzene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Hexachlorobutadiene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Hexachlorocyclopentadiene		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Hexachloroethane		8270B	10.23.97	10.28.97	1	ug/kg	370	U
Indeno(1,2,3-c,d)pyrene		8270B	10.23.97	10.28.97	1	ug/kg	370	U

SAMPLE NO: 9710430*7

Received: 10.22.97

Ms. Mary Schneider
OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE		DATE SAMPLED
9710430*7	18609-721	10.21.97

(Following results reported on the basis of 10.0% moisture)

Semi-volatiles

PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
N-Nitrosodiphenylamine	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Nitrobenzene	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Naphthalene	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Phenanthrene	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Phenol	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Pentachlorophenol	8270B	10.23.97	10.28.97	1	ug/kg	730	U
Pyrene	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Bis(2-chloroethoxy)methane	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Bis(2-chloroisopropyl)ether	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Bis(2-ethylhexyl)phthalate	8270B	10.23.97	10.28.97	1	ug/kg	370	U
Surrogates **							
2-Fluorobiphenyl Reported	8270B	10.23.97	10.28.97	1	Percent	103	
2-Fluorophenol Reported	8270B	10.23.97	10.28.97	1	Percent	79	
2,4,6-Tribromophenol Rep.	8270B	10.23.97	10.28.97	1	Percent	107	
Nitrobenzene-d5 Reported	8270B	10.23.97	10.28.97	1	Percent	93	
Phenol-d5 Reported	8270B	10.23.97	10.28.97	1	Percent	90	
Terphenyl-d14 Reported	8270B	10.23.97	10.28.97	1	Percent	87	

SAMPLE NO: 9710430*7

Received: 10.22.97

Ms. Mary Schneider
OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*7	18609-721						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Compounds by SIM							
Benzo(a)pyrene	8270.S	10.23.97	10.28.97	1	ug/kg	37	U
Dibenzo(a,h)anthracene	8270.S	10.23.97	10.28.97	1	ug/kg	37	U
N-Nitrosodi-n-propylamine	8270.S	10.23.97	10.28.97	1	ug/kg	37	U
Bis(2-chloroethyl)ether	8270.S	10.23.97	10.28.97	1	ug/kg	37	U
Surrogates **							
2-Fluorobiphenyl Reported	8270.S	10.23.97	10.28.97	1	Percent	50	
Terphenyl-d14 Reported	8270.S	10.23.97	10.28.97	1	Percent	49	

001903A

SAMPLE NO: 9710430*7

Received: 10.22.97

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Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*7	18609-721						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Pesticides							
Aldrin	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
p,p'-DDD	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
p,p'-DDE	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
p,p'-DDT	8081	10.24.97	10.29.97	1	ug/kg	2.9	
Dieldrin	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endosulfan I	8081	10.24.97	10.29.97	1	ug/kg	0.78	U
Endosulfan II	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endosulfan sulfate	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endrin	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endrin aldehyde	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endrin Ketone	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Heptachlor epoxide	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Heptachlor	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Methoxychlor	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Toxaphene	8081	10.24.97	10.29.97	1	ug/kg	190	U
BHC, alpha isomer	8081	10.24.97	10.29.97	1	ug/kg	0.78	U
alpha-Chlordane	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
BHC, beta isomer	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
BHC, delta isomer	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
BHC, gamma isomer (Lindane)	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
gamma-Chlordane	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Surrogates **							

SAMPLE NO: 9710430*7

Received: 10.22.97

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Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE	DATE SAMPLED
9710430*7	18609-721	10.21.97

PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Pesticides							
Decachlorobiphenyl Reported	8081	10.24.97	10.29.97	1	Percent	94	
Tetrachloro-meta-xylene Rpt	8081	10.24.97	10.29.97	1	Percent	67	

001904 A

SAMPLE NO: 9710430*7

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P.O.#: 1040171
Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE		DATE SAMPLED
9710430*7	18609-721	10.21.97

(Following results reported on the basis of 10.0% moisture)

Pesticides Confirmation

PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
Aldrin	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
p,p'-DDD	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
p,p'-DDE	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
p,p'-DDT	8081	10.24.97	10.29.97	1	ug/kg	2.4	
Dieldrin	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endosulfan I	8081	10.24.97	10.29.97	1	ug/kg	0.78	U
Endosulfan II	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endosulfan sulfate	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endrin	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endrin aldehyde	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Endrin Ketone	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Heptachlor epoxide	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Heptachlor	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Methoxychlor	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Toxaphene	8081	10.24.97	10.29.97	1	ug/kg	190	U
BHC, alpha isomer	8081	10.24.97	10.29.97	1	ug/kg	0.78	U
alpha-Chlordane	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
BHC, beta isomer	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
BHC, delta isomer	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
BHC, gamma isomer (Lindane)	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
gamma-Chlordane	8081	10.24.97	10.29.97	1	ug/kg	2.2	U
Surrogates **							

SAMPLE NO: 9710430*7

Received: 10.22.97

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OHM Remediation Services Corp.
2031 Main Street
Irvine, CA 92614

P.O.#: 1040171
Req#: D0#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE		DATE SAMPLED
9710430*7	18609-721	10.21.97

PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Pesticides Confirmation							
Decachlorobiphenyl Reported	8081	10.24.97	10.29.97	1	Percent	86	
Tetrachloro-meta-xylene Rpt	8081	10.24.97	10.29.97	1	Percent	58	

SAMPLE NO: 9710430*7

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Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE								DATE SAMPLED
9710430*7	18609-721							10.21.97
PARAMETER		METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)								
Polychlorinated Biphenyls								
	Aroclor 1016	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Aroclor 1221	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Aroclor 1232	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Aroclor 1242	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Aroclor 1248	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Aroclor 1254	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Aroclor 1260	8081	10.24.97	10.29.97	1	ug/kg	37	U
	Surrogates **							
	Decachlorobiphenyl Reported	8081	10.24.97	10.29.97	1	Percent	94	
	Tetrachloro-meta-xylene Rpt	8081	10.24.97	10.29.97	1	Percent	67	

SAMPLE NO: 9710430*7

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DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*7	18609-721						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
JP-5							
TPH (Diesel Range)	8015M	10.24.97	10.28.97	1	mg/kg	11	U
JP-5	8015M	10.24.97	10.28.97	1	mg/kg	11	U
Surrogates **							
Naphthalene Reported	8015M	10.24.97	10.28.97	1	Percent	88	
o-Terphenyl Reported	8015M	10.24.97	10.28.97	1	Percent	104	

SAMPLE NO: 9710430*7

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Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*7	18609-721						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Mod 8015 - Gas							
TPH (Gasoline Range)	8015M		10.24.97	1	mg/kg	11	U
Surrogates **							
a,a,a-Trifluorotoluene Rep.	8015M		10.24.97	1	Percent	108	

ANALYTICAL REPORT
000274

SAMPLE NO: 9710430*7

Received: 10.22.97

Mailed:

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Req#: DO#0070
Project: 18609-002

DRY WEIGHT REPORT OF ANALYTICAL RESULTS Page 1

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*7	18609-721						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Total Cyanide	9010A	10.24.97	10.24.97	1	mg/kg	0.56	U
pH	9045		10.24.97	1	Units	8.3	
-Moisture/TNFR	D2216		10.30.97	1	Percent	10	
Aluminum	6010A	10.27.97	10.28.97	1	mg/kg	6600	
Antimony	6010A	10.27.97	10.28.97	1	mg/kg	5.6	U
Arsenic	7060A	10.27.97	10.28.97	1	mg/kg	1.6	
Barium	6010A	10.27.97	10.28.97	1	mg/kg	110	
Beryllium	6010A	10.27.97	10.28.97	1	mg/kg	0.39	
Cadmium	6010A	10.27.97	10.28.97	1	mg/kg	0.56	U
Calcium	6010A	10.27.97	10.28.97	1	mg/kg	7000	
Chromium	6010A	10.27.97	10.28.97	1	mg/kg	8.9	
Cobalt	6010A	10.27.97	10.28.97	1	mg/kg	5.9	
Copper	6010A	10.27.97	10.28.97	1	mg/kg	5.1	
Iron	6010A	10.27.97	10.28.97	1	mg/kg	10000	
Lead	7421	10.27.97	10.29.97	5	mg/kg	12	
Magnesium	6010A	10.27.97	10.28.97	1	mg/kg	4700	
Manganese	6010A	10.27.97	10.28.97	1	mg/kg	200	
Mercury	7471A	10.24.97	10.27.97	1	mg/kg	0.089	U
Molybdenum	6010A	10.27.97	10.28.97	1	mg/kg	2.2	U
Nickel	6010A	10.27.97	10.28.97	1	mg/kg	6.6	
Potassium	6010A	10.27.97	10.28.97	1	mg/kg	2900	
Selenium	7740	10.27.97	10.28.97	1	mg/kg	0.56	U
Silver	6010A	10.27.97	10.28.97	1	mg/kg	1.1	U
Sodium	6010A	10.27.97	10.28.97	1	mg/kg	82	J

SAMPLE NO: 9710430*7

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DRY WEIGHT REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLE							DATE SAMPLED
9710430*7	18609-721						10.21.97
PARAMETER	METHOD	PREPED	ANALYZED	DIL	UNITS	RESULT	FLG
(Following results reported on the basis of 10.0% moisture)							
Thallium	6010A	10.27.97	10.28.97	1	mg/kg	2.9	J
Vanadium	6010A	10.27.97	10.28.97	1	mg/kg	24	
Zinc	6010A	10.27.97	10.28.97	1	mg/kg	41	
Digestion	3050	10.27.97	10.27.97	1	Date	10/27/97	
Furnace Digestion	3050	10.27.97	10.27.97	1	Date	10/27/97	

OHM Remediation Services Corp.

level D

TRANSFER 1

Form 0019
Field Technical Services
Rev. 08/89

COMPLETED CHAIN-OF-CUSTODY RECORD

C#74214908   173939

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Bldg #359C
PROJECT LOCATION: EL TORO MCAS
PROJ. NO.: 17486
PROJECT CONTACT: Gerald Tomachiko
PROJECT TELEPHONE NO.: (714) 763-1146
CLIENT'S REPRESENTATIVE: Lynn Hornecker Sw Div.
PROJECT MANAGER/SUPERVISOR: Bill Sedlak - OHM

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): M8015 Full Range; M8015 G / 8020

REMARKS: Curtis & Tompkins Irvine, CA

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	M8015 Full Range	M8015 G / 8020	REMARKS
1	96-359C-S-773	8/29/96	10:58		X	SB02 @ 16'	1	X	X	
2	96-359C-S-774	8/29/96	11:02		X	SB02 @ 25.5'	1	X	X	
3										
4										
5										
6										
7										
8						SCY 8/29/96 17:50				
9										
10										

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	[signature]	[signature]	8/29	7:45
2					
3					
4					

REMARKS: If gasoline detected analyze for O-LEAD
14 days T.A.T.

SAMPLER'S SIGNATURE: [signature]

Diesel

Lab SDG #:	214908S	Matrix:	Soil
Client Project #:	17486	Method:	EPA 8015M
Project Location:	EL TORO MCAS	Extraction Method:	DHS Luft Procedure
		Instrument I.D.:	HP GC #183

Lab ID	Client ID	Report Value (mg/Kg)	Q	PQL	MDL	Date Sampled	Date Extracted	Date Analyzed	Surr. %Rec BRO/HEX	Solids %	QC Batch ID
214908-001	96-359-S-764	ND		2.7	2.7	08/29/96	08/29/96	09/06/96	/173	91	30170
214908-003	96-359-S-766	ND		2.9	2.9	08/29/96	08/29/96	09/06/96	/137	86	30170
214908-004	96-359-S-767	ND		2.6	2.6	08/29/96	08/29/96	09/06/96	/123	97	30170
214908-005	96-359-S-768	ND		2.8	2.8	08/29/96	08/29/96	09/06/96	/124	90	30170
214908-006	96-359-S-769	ND		2.6	2.6	08/29/96	08/29/96	09/06/96	/131	94	30170
214908-008	96-359C-S-771	ND		3.1	3.1	08/29/96	08/29/96	09/06/96	/133	80	30170
214908-009	96-359C-S-772	ND		3.2	3.2	08/29/96	08/29/96	09/06/96	/133	79	30170
214908-010	96-359C-S-773	ND		3.2	3.2	08/29/96	08/29/96	09/06/96	/133	79	30170
214908-011	96-359C-S-774	ND		3.0	3.0	08/29/96	08/29/96	09/06/96	/140	83	30170
214908-012	96-359C-S-775	ND		3.1	3.1	08/29/96	08/29/96	09/06/96	/149	80	30170
214908-013	96-359C-S-776	ND		2.8	2.8	08/29/96	08/29/96	09/06/96	/147	90	30170
214908-014	96-359C-S-777	ND		3.0	3.0	08/29/96	08/29/96	09/12/96	/141	84	30170
214908-015	96-359C-S-778	ND		3.3	3.3	08/29/96	08/29/96	09/12/96	/164	76	30170
214908-016	96-359C-S-779	ND		2.8	2.8	08/29/96	08/29/96	09/12/96	/176	91	30170
214908-017	96-359C-S-780	ND		12	1.8	08/29/96	08/29/96	08/30/96	88/90	86	13366
214908-018	96-359C-S-781	ND		10	1.7	08/29/96	08/29/96	08/30/96	112/108	95	13366
QC31761	MTHDBLANK	ND		1	1	N/A	08/29/96	09/06/96	/175		30170
QC63269	MTHDBLANK	ND		10	1.6	N/A	08/29/96	08/30/96	110/108		13366

Surrogate	Surrogate Amount	Surrogate QC Limits
Bromobenzene (BRO)	100	60-120
Hexacosane (HEX)	100	58-142

Laboratory Control Sample, Blank Spike/Blank Spike Duplicate, Matrix Spike/Matrix Spike Duplicate QC Summary

QC Batch ID	Client ID	Date Analyzed	Spike Amount mg/Kg	LCS % Rec.	QC Limits	MS % Rec.	MSD % Rec.	QC Limits	MS/MSD RPD	QC Limits
13366	214908-017 96-359C-S-780	08/30/96	100	95	75-125	100	103	59-120	3	30
30170	214908-017 96-359C-S-780	09/06/96	100	82	75-125	78	78	59-120	0	30

000121

Jet Fuel #5

Lab SDG #: 214908S
Client Project #: 17486
Project Location: EL TORO MCAS

Matrix: Soil
Method: EPA 8015M
Extraction Method: DHS Luft Procedure
Instrument I.D.: HP GC #183

Lab ID	Client ID	Report Value (mg/Kg)	Q	PQL	MDL	Date Sampled	Date Extracted	Date Analyzed	Surr. %Rec BRO/HEX	Solids %	QC Batch ID
214908-001	96-359-S-764	ND		2.7	2.7	08/29/96	08/29/96	09/06/96	/173	91	30170
214908-003	96-359-S-766	ND		2.9	2.9	08/29/96	08/29/96	09/06/96	/137	86	30170
214908-004	96-359-S-767	ND		2.6	2.6	08/29/96	08/29/96	09/06/96	/123	97	30170
214908-005	96-359-S-768	ND		2.8	2.8	08/29/96	08/29/96	09/06/96	/124	90	30170
214908-006	96-359-S-769	ND		2.6	2.6	08/29/96	08/29/96	09/06/96	/131	94	30170
214908-008	96-359C-S-771	ND		3.1	3.1	08/29/96	08/29/96	09/06/96	/133	80	30170
214908-009	96-359C-S-772	ND		3.2	3.2	08/29/96	08/29/96	09/06/96	/133	79	30170
214908-010	96-359C-S-773	ND		3.2	3.2	08/29/96	08/29/96	09/06/96	/133	79	30170
214908-011	96-359C-S-774	ND		3.0	3.0	08/29/96	08/29/96	09/06/96	/140	83	30170
214908-012	96-359C-S-775	ND		3.1	3.1	08/29/96	08/29/96	09/06/96	/149	80	30170
214908-013	96-359C-S-776	ND		2.8	2.8	08/29/96	08/29/96	09/06/96	/147	90	30170
214908-014	96-359C-S-777	ND		3.0	3.0	08/29/96	08/29/96	09/12/96	/141	84	30170
214908-015	96-359C-S-778	ND		3.3	3.3	08/29/96	08/29/96	09/12/96	/164	76	30170
214908-016	96-359C-S-779	ND		2.8	2.8	08/29/96	08/29/96	09/12/96	/176	91	30170
214908-017	96-359C-S-780	ND		12	1.3	08/29/96	08/29/96	08/30/96	88/90	86	13366
214908-018	96-359C-S-781	ND		10	1.2	08/29/96	08/29/96	08/30/96	112/108	95	13366
QC31761	MTHDBLANK	ND		1	1	N/A	08/29/96	09/06/96	/175		30170
QC63269	MTHDBLANK	ND		10	1.1	N/A	08/29/96	08/30/96	110/108		13366

Surrogate	Surrogate Amount	Surrogate QC Limits
Bromobenzene (BRO)	100	60-120
Hexacosane (HEX)	100	58-142

Laboratory Control Sample, Blank Spike/Blank Spike Duplicate, Matrix Spike/Matrix Spike Duplicate QC Summary

QC Batch ID	Client ID	Date Analyzed	Spike Amount mg/Kg	LCS % Rec.	QC Limits	MS % Rec.	MSD % Rec.	QC Limits	MS/MSD RPD	QC Limits
13366	214908-017 96-359C-S-780	08/30/96	100	95	75-125	100	103	59-120	3	30
30170	214908-017 96-359C-S-780	09/06/96	100	82	75-125	78	78	59-120	0	30

Volatile Organics by GC/MS

Client Sample ID:	96-359C-S-773	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8260	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 5030 Purge & Trap	Date Received:	08/29/96
Lab Sample ID:	214908-010	Instrument ID:	HP GC/MS #250	Date Extracted:	09/05/96
Lab SDG #:	214908S	Solids (%):	79	Date Analyzed:	09/05/96
				QC Batch ID:	13431AI5

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL
Acetone	4.3	J	13	1.9	3.0	J	10	1.5
Benzene	ND		6.3	1.3	ND		5.0	1.0
Bromodichloromethane	ND		6.3	1.5	ND		5.0	1.2
Bromoform	ND		6.3	1.5	ND		5.0	1.2
Bromomethane	ND		13	1.6	ND		10	1.3
2-Butanone	9.6	J	13	1.3	8.3	J	10	1.0
Carbon disulfide	ND		6.3	1.1	ND		5.0	0.9
Carbon tetrachloride	ND		6.3	1.3	ND		5.0	1.0
Chlorobenzene	ND		6.3	1.4	ND		5.0	1.1
Chloroethane	ND		13	2.3	ND		10	1.8
2-Chloroethyl vinyl ether	ND		13	3.8	ND		10	3.0
Chloroform	2.5	J	6.3	1.6	2.2	J	5.0	1.3
Chloromethane	ND		13	1.5	ND		10	1.2
Dibromochloromethane	ND		6.3	1.4	ND		5.0	1.1
1,1-Dichloroethane	ND		6.3	1.3	ND		5.0	1.0
1,2-Dichloroethane	ND		6.3	1.4	ND		5.0	1.1
1,1-Dichloroethene	ND		6.3	1.1	ND		5.0	0.9
cis-1,2-Dichloroethene	ND		6.3	1.5	ND		5.0	1.2
trans-1,2-Dichloroethene	ND		6.3	1.5	ND		5.0	1.2
1,2-Dichloropropane	ND		6.3	1.6	ND		5.0	1.3
cis-1,3-Dichloropropene	ND		6.3	1.5	ND		5.0	1.2
trans-1,3-Dichloropropene	ND		6.3	1.5	ND		5.0	1.2
Ethylbenzene	ND		6.3	1.4	ND		5.0	1.1
Freon 113	ND		6.3	0.6	ND		5.0	0.5
2-Hexanone	ND		13	1.1	ND		10	0.9
Methylene chloride	ND		6.3	1.4	ND		5.0	1.1
4-Methyl-2-pentanone	ND		13	1.0	ND		10	0.8
Styrene	ND		6.3	1.5	ND		5.0	1.2
1,1,2,2-Tetrachloroethane	ND		6.3	2.4	ND		5.0	1.9
Tetrachloroethene	ND		6.3	1.4	ND		5.0	1.1
Toluene	ND		6.3	1.3	1.0	J	5.0	1.0
1,1,1-Trichloroethane	ND		6.3	1.1	ND		5.0	0.9
1,1,2-Trichloroethane	ND		6.3	1.9	ND		5.0	1.5
Trichloroethene	1.8	J	6.3	1.1	ND		5.0	0.9
Trichlorofluoromethane	ND		6.3	0.9	ND		5.0	0.7
Vinyl acetate	ND		13	1.3	ND		10	1.0
Vinyl chloride	ND		13	1.8	ND		10	1.4
m,p-Xylenes	ND		6.3	2.8	ND		5.0	2.2
o-Xylene	ND		6.3	1.6	ND		5.0	1.3

001109

Volatile Organics by GC/MS

Client Sample ID:	96-359C-S-773	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8260	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 5030 Purge & Trap	Date Received:	08/29/96
Lab Sample ID:	214908-010	Instrument ID:	HP GC/MS #250	Date Extracted:	09/05/96
Lab SDG #:	214908S	Solids (%):	79	Date Analyzed:	09/05/96
				QC Batch ID:	13431AI5

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL

Surrogate QC Information

Compound	Amt. ug/Kg	Sample %Rec.	Blank %Rec	Limits
Toluene-d8	50	105	98	81-117
Bromofluorobenzene	50	110	100	74-121
Dibromofluoromethane	50	86	97	80-120

LCS and MS/MSD QC Information

Client Sample ID used for MS/MSD: 214880-001 96-TF5-S-731

Compound	Amt. ug/Kg	LCS %Rec.	LCS Limits	MS %Rec.	MSD %Rec.	MS/MSD Limits	RPD	RPD Limit
1,1-Dichloroethene	25	86	80-120	99	91	59-172	8	22
Benzene	25	99	80-120	106	104	66-142	2	21
Trichloroethene	25	93	80-120	93	89	62-137	4	24
Toluene	25	95	80-120	95	89	59-139	6	21
Chlorobenzene	25	97	80-120	92	110	60-133	18	21

Volatile Organics by GC/MS

Client Sample ID:	96-359C-S-774	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8260	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 5030 Purge & Trap	Date Received:	08/29/96
Lab Sample ID:	214908-011	Instrument ID:	HP GC/MS #250	Date Extracted:	09/06/96
Lab SDG #:	214908S	Solids (%):	83	Date Analyzed:	09/06/96
				QC Batch ID:	13431AI5

	Report Value				Blank Value			
Compound	ug/Kg	Q	PQL	MDL	ug/Kg	Q	PQL	MDL
Acetone	4.3	J	12	1.8	3.0	J	10	1.5
Benzene	ND		6.0	1.2	ND		5.0	1.0
Bromodichloromethane	ND		6.0	1.4	ND		5.0	1.2
Bromoform	ND		6.0	1.4	ND		5.0	1.2
Bromomethane	ND		12	1.6	ND		10	1.3
2-Butanone	10	J	12	1.2	8.3	J	10	1.0
Carbon disulfide	ND		6.0	1.1	ND		5.0	0.9
Carbon tetrachloride	ND		6.0	1.2	ND		5.0	1.0
Chlorobenzene	ND		6.0	1.3	ND		5.0	1.1
Chloroethane	ND		12	2.2	ND		10	1.8
2-Chloroethyl vinyl ether	ND		12	3.6	ND		10	3.0
Chloroform	2.4	J	6.0	1.6	2.2	J	5.0	1.3
Chloromethane	ND		12	1.4	ND		10	1.2
Dibromochloromethane	ND		6.0	1.3	ND		5.0	1.1
1,1-Dichloroethane	ND		6.0	1.2	ND		5.0	1.0
1,2-Dichloroethane	ND		6.0	1.3	ND		5.0	1.1
1,1-Dichloroethene	ND		6.0	1.1	ND		5.0	0.9
cis-1,2-Dichloroethene	ND		6.0	1.4	ND		5.0	1.2
trans-1,2-Dichloroethene	ND		6.0	1.4	ND		5.0	1.2
1,2-Dichloropropane	ND		6.0	1.6	ND		5.0	1.3
cis-1,3-Dichloropropene	ND		6.0	1.4	ND		5.0	1.2
trans-1,3-Dichloropropene	ND		6.0	1.4	ND		5.0	1.2
Ethylbenzene	ND		6.0	1.3	ND		5.0	1.1
Freon 113	ND		6.0	0.6	ND		5.0	0.5
2-Hexanone	ND		12	1.1	ND		10	0.9
Methylene chloride	1.9	J	6.0	1.3	ND		5.0	1.1
4-Methyl-2-pentanone	ND		12	1.0	ND		10	0.8
Styrene	ND		6.0	1.4	ND		5.0	1.2
1,1,2,2-Tetrachloroethane	ND		6.0	2.3	ND		5.0	1.9
Tetrachloroethene	ND		6.0	1.3	ND		5.0	1.1
Toluene	ND		6.0	1.2	1.0	J	5.0	1.0
1,1,1-Trichloroethane	ND		6.0	1.1	ND		5.0	0.9
1,1,2-Trichloroethane	ND		6.0	1.8	ND		5.0	1.5
Trichloroethene	ND		6.0	1.1	ND		5.0	0.9
Trichlorofluoromethane	ND		6.0	0.8	ND		5.0	0.7
Vinyl acetate	ND		12	1.2	ND		10	1.0
Vinyl chloride	ND		12	1.7	ND		10	1.4
m,p-Xylenes	ND		6.0	2.6	ND		5.0	2.2
o-Xylene	ND		6.0	1.6	ND		5.0	1.3

001111

Volatile Organics by GC/MS

Client Sample ID:	96-359C-S-774	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8260	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 5030 Purge & Trap	Date Received:	08/29/96
Lab Sample ID:	214908-011	Instrument ID:	HP GC/MS #250	Date Extracted:	09/06/96
Lab SDG #:	214908S	Solids (%):	83	Date Analyzed:	09/06/96
				QC Batch ID:	13431A15

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL

Surrogate QC Information

Compound	Amt. ug/Kg	Sample %Rec.	Blank %Rec	Limits
Toluene-d8	50	104	98	81-117
Bromofluorobenzene	50	111	100	74-121
Dibromofluoromethane	50	89	97	80-120

LCS and MS/MSD QC Information

Client Sample ID used for MS/MSD: 214880-001 96-TF5-S-731

Compound	Amt. ug/Kg	LCS %Rec.	LCS Limits	MS %Rec.	MSD %Rec.	MS/MSD Limits	RPD	RPD Limit
1,1-Dichloroethene	25	86	80-120	99	91	59-172	8	22
Benzene	25	99	80-120	106	104	66-142	2	21
Trichloroethene	25	93	80-120	93	89	62-137	4	24
Toluene	25	95	80-120	95	89	59-139	6	21
Chlorobenzene	25	97	80-120	92	110	60-133	18	21

001112

Semivolatile Organics by GC/MS

Client Sample ID:	96-359C-S-773	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8270	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 3550 Sonication Extraction	Date Received:	08/29/96
Lab Sample ID:	214908-010	Instrument ID:	HP GC/MS #171	Date Extracted:	09/09/96
Lab SDG #:	214908S	Solids (%):	79	Date Analyzed:	09/12/96
				QC Batch ID:	29691

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL
Acenaphthene	ND		420	420	ND		330	330
Acenaphthylene	ND		420	420	ND		330	330
Anthracene	ND		420	420	ND		330	330
Benzo(a)anthracene	ND		420	420	ND		330	330
Benzo(b)fluoranthene	ND		420	420	ND		330	330
Benzo(k)fluoranthene	ND		420	420	ND		330	330
Benzo(g,h,i)perylene	ND		420	420	ND		330	330
Benzo(a)pyrene	ND		420	420	ND		330	330
Benzoic acid	ND		2,100	2,100	ND		1,700	1,700
Benzyl alcohol	ND		420	420	ND		330	330
bis(2-Chloroethoxy)methane	ND		420	420	ND		330	330
bis(2-Chloroethyl)ether	ND		420	420	ND		330	330
bis(2-Chloroisopropyl)ether	ND		420	420	ND		330	330
bis(2-Ethylhexyl)phthalate	ND		420	420	ND		330	330
4-Bromophenyl-phenylether	ND		420	420	ND		330	330
Butylbenzylphthalate	ND		420	420	ND		330	330
4-Chloroaniline	ND		420	420	ND		330	330
4-Chloro-3-methylphenol	ND		420	420	ND		330	330
2-Chloronaphthalene	ND		420	420	ND		330	330
2-Chlorophenol	ND		420	420	ND		330	330
4-Chlorophenyl-phenylether	ND		420	420	ND		330	330
Chrysene	ND		420	420	ND		330	330
Dibenz(a,h)anthracene	ND		420	420	ND		330	330
Dibenzofuran	ND		420	420	ND		330	330
Di-n-butylphthalate	ND		420	420	ND		330	330
1,2-Dichlorobenzene	ND		420	420	ND		330	330
1,3-Dichlorobenzene	ND		420	420	ND		330	330
1,4-Dichlorobenzene	ND		420	420	ND		330	330
3,3'-Dichlorobenzidine	ND		2,100	2,100	ND		1,700	1,700
2,4-Dichlorophenol	ND		420	420	ND		330	330
Diethylphthalate	ND		420	420	ND		330	330
2,4-Dimethylphenol	ND		420	420	ND		330	330
Dimethylphthalate	ND		420	420	ND		330	330
4,6-Dinitro-2-methylphenol	ND		2,100	2,100	ND		1,700	1,700
2,4-Dinitrophenol	ND		2,100	2,100	ND		1,700	1,700
2,4-Dinitrotoluene	ND		420	420	ND		330	330
2,6-Dinitrotoluene	ND		420	420	ND		330	330
Di-n-octylphthalate	ND		420	420	ND		330	330
Fluoranthene	ND		420	420	ND		330	330
Fluorene	ND		420	420	ND		330	330
Hexachlorobenzene	ND		420	420	ND		330	330
Hexachlorobutadiene	ND		420	420	ND		330	330
Hexachlorocyclopentadiene	ND		420	420	ND		330	330
Hexachloroethane	ND		420	420	ND		330	330
Indeno(1,2,3-cd)pyrene	ND		420	420	ND		330	330
Isophorone	ND		420	420	ND		330	330
2-Methylnaphthalene	ND		420	420	ND		330	330
2-Methylphenol	ND		420	420	ND		330	330
4-Methylphenol	ND		420	420	ND		330	330

001387

Semivolatile Organics by GC/MS

Client Sample ID:	96-359C-S-773	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8270	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 3550 Sonication Extraction	Date Received:	08/29/96
Lab Sample ID:	214908-010	Instrument ID:	HP GC/MS #171	Date Extracted:	09/09/96
Lab SDG #:	214908S	Solids (%):	79	Date Analyzed:	09/12/96
				QC Batch ID:	29691

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL
2-Nitroaniline	ND		2,100	2,100	ND		1,700	1,700
3-Nitroaniline	ND		2,100	2,100	ND		1,700	1,700
4-Nitroaniline	ND		2,100	2,100	ND		1,700	1,700
2-Nitrophenol	ND		2,100	2,100	ND		1,700	1,700
4-Nitrophenol	ND		2,100	2,100	ND		1,700	1,700
N-Nitrosodiphenylamine	ND		420	420	ND		330	330
N-Nitroso-di-n-propylamine	ND		420	420	ND		330	330
Naphthalene	ND		420	420	ND		330	330
Nitrobenzene	ND		420	420	ND		330	330
Pentachlorophenol	ND		2,100	2,100	ND		1,700	1,700
Phenanthrene	ND		420	420	ND		330	330
Phenol	ND		420	420	ND		330	330
Pyrene	ND		420	420	ND		330	330
1,2,4-Trichlorobenzene	ND		420	420	ND		330	330
2,4,5-Trichlorophenol	ND		2,100	2,100	ND		1,700	1,700
2,4,6-Trichlorophenol	ND		420	420	ND		330	330

Surrogate QC Information

Compound	Amt. ug/Kg	Sample %Rec.	Blank %Rec	Limits
2-Fluorophenol	3330	65	67	25-121
Phenol-d6	3330	70	70	24-113
2,4,6-Tribromophenol	3330	48	49	19-122
Nitrobenzene-d5	1670	62	65	23-120
2-Fluorobiphenyl	1670	64	70	30-115
Terphenyl-d14	1670	69	73	18-137

LCS and MS/MSD QC Information

Client Sample ID used for MS/MSD: 214908-016 96-359C-S-779

Compound	Amt. ug/Kg	LCS %Rec.	LCS Limits	MS %Rec.	MSD %Rec.	MS/MSD Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	1670	68	38-107	59	59	38-107	0	23
Acenaphthene	1670	70	31-137	68	68	31-137	0	19
2,4-Dinitrotoluene	1670	66	28-89	64	62	28-89	3	47
Pyrene	1670	67	42-142	68	68	42-142	0	36
N-Nitroso-di-n-propylami	1670	51	41-126	49	48	41-126	3	38
1,4-Dichlorobenzene	1670	70	28-104	56	57	28-104	2	27
Pentachlorophenol	3330	52	17-109	53	49	17-109	8	47
Phenol	3330	66	26-90	64	62	26-90	3	35
2-Chlorophenol	3330	72	25-102	69	68	25-102	1	50
4-Chloro-3-methylphenol	3330	65	26-103	63	63	26-103	0	33
4-Nitrophenol	3330	48	11-114	48	45	11-114	6	50

001388

Semivolatile Organics by GC/MS

Client Sample ID:	96-359C-S-774	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8270	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 3550 Sonication Extraction	Date Received:	08/29/96
Lab Sample ID:	214908-011	Instrument ID:	HP GC/MS #171	Date Extracted:	09/09/96
Lab SDG #:	214908S	Solids (%):	83	Date Analyzed:	09/12/96
				QC Batch ID:	29691

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL
Acenaphthene	ND		400	400	ND		330	330
Acenaphthylene	ND		400	400	ND		330	330
Anthracene	ND		400	400	ND		330	330
Benzo(a)anthracene	ND		400	400	ND		330	330
Benzo(b)fluoranthene	ND		400	400	ND		330	330
Benzo(k)fluoranthene	ND		400	400	ND		330	330
Benzo(g,h,i)perylene	ND		400	400	ND		330	330
Benzo(a)pyrene	ND		400	400	ND		330	330
Benzoic acid	ND		2,000	2,000	ND		1,700	1,700
Benzyl alcohol	ND		400	400	ND		330	330
bis(2-Chloroethoxy)methane	ND		400	400	ND		330	330
bis(2-Chloroethyl)ether	ND		400	400	ND		330	330
bis(2-Chloroisopropyl)ether	ND		400	400	ND		330	330
bis(2-Ethylhexyl)phthalate	ND		400	400	ND		330	330
4-Bromophenyl-phenylether	ND		400	400	ND		330	330
Butylbenzylphthalate	ND		400	400	ND		330	330
4-Chloroaniline	ND		400	400	ND		330	330
4-Chloro-3-methylphenol	ND		400	400	ND		330	330
2-Chloronaphthalene	ND		400	400	ND		330	330
2-Chlorophenol	ND		400	400	ND		330	330
4-Chlorophenyl-phenylether	ND		400	400	ND		330	330
Chrysene	ND		400	400	ND		330	330
Dibenz(a,h)anthracene	ND		400	400	ND		330	330
Dibenzofuran	ND		400	400	ND		330	330
Di-n-butylphthalate	ND		400	400	ND		330	330
1,2-Dichlorobenzene	ND		400	400	ND		330	330
1,3-Dichlorobenzene	ND		400	400	ND		330	330
1,4-Dichlorobenzene	ND		400	400	ND		330	330
3,3'-Dichlorobenzidine	ND		2,000	2,000	ND		1,700	1,700
2,4-Dichlorophenol	ND		400	400	ND		330	330
Diethylphthalate	ND		400	400	ND		330	330
2,4-Dimethylphenol	ND		400	400	ND		330	330
Dimethylphthalate	ND		400	400	ND		330	330
4,6-Dinitro-2-methylphenol	ND		2,000	2,000	ND		1,700	1,700
2,4-Dinitrophenol	ND		2,000	2,000	ND		1,700	1,700
2,4-Dinitrotoluene	ND		400	400	ND		330	330
2,6-Dinitrotoluene	ND		400	400	ND		330	330
Di-n-octylphthalate	ND		400	400	ND		330	330
Fluoranthene	ND		400	400	ND		330	330
Fluorene	ND		400	400	ND		330	330
Hexachlorobenzene	ND		400	400	ND		330	330
Hexachlorobutadiene	ND		400	400	ND		330	330
Hexachlorocyclopentadiene	ND		400	400	ND		330	330
Hexachloroethane	ND		400	400	ND		330	330
Indeno(1,2,3-cd)pyrene	ND		400	400	ND		330	330
Isophorone	ND		400	400	ND		330	330
2-Methylnaphthalene	ND		400	400	ND		330	330
2-Methylphenol	ND		400	400	ND		330	330
4-Methylphenol	ND		400	400	ND		330	330

Semivolatile Organics by GC/MS

Client Sample ID:	96-359C-S-774	Matrix:	Soil		
Client Project #:	17486	Method:	EPA 8270	Date Sampled:	08/29/96
Project Location:	EL TORO MCAS	Extraction Method:	EPA 3550 Sonication Extraction	Date Received:	08/29/96
Lab Sample ID:	214908-011	Instrument ID:	HP GC/MS #171	Date Extracted:	09/09/96
Lab SDG #:	214908S	Solids (%):	83	Date Analyzed:	09/12/96
				QC Batch ID:	29691

Compound	Report Value ug/Kg	Q	PQL	MDL	Blank Value ug/Kg	Q	PQL	MDL
2-Nitroaniline	ND		2,000	2,000	ND		1,700	1,700
3-Nitroaniline	ND		2,000	2,000	ND		1,700	1,700
4-Nitroaniline	ND		2,000	2,000	ND		1,700	1,700
2-Nitrophenol	ND		2,000	2,000	ND		1,700	1,700
4-Nitrophenol	ND		2,000	2,000	ND		1,700	1,700
N-Nitrosodiphenylamine	ND		400	400	ND		330	330
N-Nitroso-di-n-propylamine	ND		400	400	ND		330	330
Naphthalene	ND		400	400	ND		330	330
Nitrobenzene	ND		400	400	ND		330	330
Pentachlorophenol	ND		2,000	2,000	ND		1,700	1,700
Phenanthrene	ND		400	400	ND		330	330
Phenol	ND		400	400	ND		330	330
Pyrene	ND		400	400	ND		330	330
1,2,4-Trichlorobenzene	ND		400	400	ND		330	330
2,4,5-Trichlorophenol	ND		2,000	2,000	ND		1,700	1,700
2,4,6-Trichlorophenol	ND		400	400	ND		330	330

Surrogate QC Information

Compound	Amt. ug/Kg	Sample %Rec.	Blank %Rec	Limits
2-Fluorophenol	3330	60	67	25-121
Phenol-d6	3330	65	70	24-113
2,4,6-Tribromophenol	3330	45	49	19-122
Nitrobenzene-d5	1670	58	65	23-120
2-Fluorobiphenyl	1670	61	70	30-115
Terphenyl-d14	1670	64	73	18-137

LCS and MS/MSD QC Information

Client Sample ID used for MS/MSD: 214908-016 96-359C-S-779

Compound	Amt. ug/Kg	LCS %Rec.	LCS Limits	MS %Rec.	MSD %Rec.	MS/MSD Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	1670	68	38-107	59	59	38-107	0	23
Acenaphthene	1670	70	31-137	68	68	31-137	0	19
2,4-Dinitrotoluene	1670	66	28-89	64	62	28-89	3	47
Pyrene	1670	67	42-142	68	68	42-142	0	36
N-Nitroso-di-n-propylami	1670	51	41-126	49	48	41-126	3	38
1,4-Dichlorobenzene	1670	70	28-104	56	57	28-104	2	27
Pentachlorophenol	3330	52	17-109	53	49	17-109	8	47
Phenol	3330	66	26-90	64	62	26-90	3	35
2-Chlorophenol	3330	72	25-102	69	68	25-102	1	50
4-Chloro-3-methylphenol	3330	65	26-103	63	63	26-103	0	33
4-Nitrophenol	3330	48	11-114	48	45	11-114	6	50